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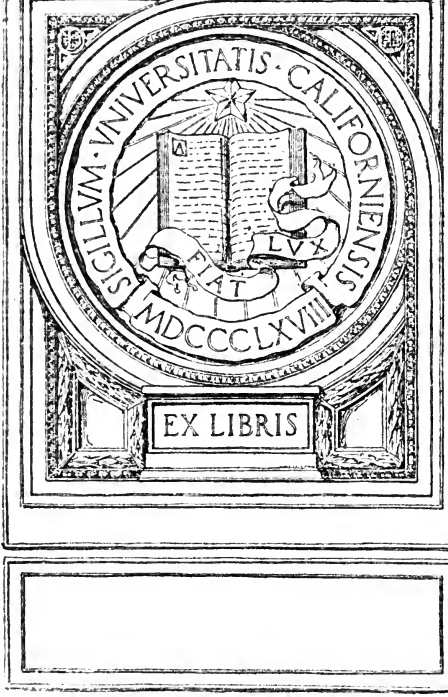
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Business Barometers

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Accumulation of Money

A Text Book on Fundamental Statistics for Investors and Merchants

By

Roger Ward Babson

Published by

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Wellesley Hills, Mass., U. S. A.

GENERA

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by
Roger W. Babson

Dedicated
to
PROFESSOR G. F. S.

"People will endeavor to forecast the future and make agreements according to their prophecy. Speculation of this kind by competent men is the self-adjustment of society to the probability."
—*Judge Holmes in a United States Supreme Court decision.*

193625

"I hold that a man who is long-headed, who foresees and judges accurately, has an advantage over his neighbor, and it is not accounted immoral for him to use that advantage, because he is individually better fitted for the business; and it inheres in him by a law of nature, that he has a right to the whole of himself legitimately applied. If one man, or twenty men, looking at the state of the nation here, at the crops, at the possible contingencies and risks of climate, at the conditions of Europe; in other words, taking all the elements that belong to the world, into consideration, are sagacious enough to prophecy the best of action, I don't see why it is not legitimate."

HENRY WARD BEECHER.

PREFACE

This little book is prepared for two purposes, viz:

1. To show the possibilities and the limitations of Financial Statistics.

2. To give simple and practical examples of the use of such Statistics.

There are several books which enter into the theory and technique of railroad reports and other statistical data, but we know of no book which especially appeals to the banker, the investor, and the merchant. To practical interests of this class of readers, this short work is dedicated.

If, at first reading, the book should seem either too complicated, or extremely simple, we sincerely recommend a second reading, as it is not complicated, neither is it elementary. It should, moreover, be the means of aiding every reader in creating and retaining wealth.

The writer of this book wishes to acknowledge the aid which he has received from Miss Mary B. Smith and Mr. Robert G. Bolles, both of whom have greatly aided in the compilation; also to Miss Sawyer, of Wellesley, who aided in reading copy.

He also wishes again to thank friends in the various Stock Exchange Firms, Bond Houses, and Banks who have been patient with him during the experimental and formulative stages of the work. These friends have not only recognized the difficulties under which the work has been performed, but have always greatly aided by criticisms and suggestions.

R. W. B.

Wellesley Hills, Mass., March 1, 1909.

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FOREWORD

"A study of past disturbances leads to the conviction that no severe depression has occurred which was not preceded by loud warnings. These warnings ought not to pass unheeded and in order to recognize them promptly, it is necessary that accurate statistics be furnished. Much improvement has been accomplished in the last few years, though it is to be regretted that so much of our statistical information is fragmentary or inaccurate. Official and private publications furnish much valuable information. They include voluminous figures of deposits and loans of banks, movement of specie, exports and imports, railway earnings, wholesale prices, and the condition and probable yield of crops. A vital defect in many of them is the omission to give, for purposes of comparison, similar figures for previous months and years. Another defect is the absence of uniformity in the methods and classification employed. These comparative statistics would afford a means of determining the trend of events, and give warning when prices are unnaturally high or any branch of business is overdone. It is also note-worthy that we do not sufficiently consider statistics relating to the

course of affairs in foreign countries, the influence of which upon our own condition is of the utmost importance, by reason of the enlargement of our trade and the closer international relations of modern commerce. Other statistics, which are inadequate or lacking and which would be of great value, are those pertaining to the employment of labor, capital invested in new enterprises, amounts expended in new construction, volume of production in the various kinds of manufactures, and statistics of state banks and savings institutions similar to those pertaining to national banks. After making due allowance for the insufficiency of statistics, it must be said that the failure to pay sufficient attention to those already available is equally to be regretted."

The above was written in 1902 by Hon. Theodore E. Burton, U. S. Senator from Ohio, and is very interesting as a matter of prophecy. The "vital defects" moreover have now been overcome and we are able to obtain and furnish regularly the identical comparative figures which he then so much desired.

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CHAPTER I.

THE THEORY OF STATISTICS AFFECTING INVESTMENT STOCKS.

IS it possible, actually and surely, to make money by the use of statistics?

Do statistics prove of absolute value to an investor, merchant or banker, or are they a luxury? When one hears that a bond house, which is supposed to have an elaborate statistical department, has become "loaded" with unmarketable securities, one wonders whether such statistical departments are of any practical value or whether they are maintained merely as an advertisement, or for other and sentimental reasons. The same doubt arises when one hears that all of the customers of some mercantile house, which has been issuing elaborate booklets and charts, are on the wrong side of the market. If of actual value in making money or in giving helpful advice to customers, the average business man is willing to pay for any service supplying the statistics necessary; but if he cannot make money more readily by their use, he does not wish the statistics, either at his home desk, or at the office. In other words, the business man is anxious to

have any data directly increasing profits, but unless he is convinced that the investment will be worth while, he has no reason for adding the cost of a statistical service to his other expenses.

As this position is assumed by the brightest brokers, bond dealers and investors, we herewith submit a short brief on the use of statistics in business.

The Two Classes of Statistics

Statistics are divided into two classes viz.: Comparative Statistics and Fundamental Statistics; and we herewith give a very short description of these two classes:

I. Comparative Statistics

From the investor's point of view, this class includes all particulars concerning the bonded debt, the earnings and the general physical and financial conditions of properties. Such statistics are very necessary for comparing securities of different companies and the different securities of the same company. So far as the merchant is concerned, Comparative Statistics relate to the weight, quality, age, and method of manufacture of the merchandise in which he deals, together with such "trade figures" as are published in the trade journals. If such data is

always up-to-date, these Comparative Statistics are very valuable for enabling one to select securities, either for the purpose of buying or selling. As the largest and most successful stock exchange brokers, bond houses and mercantile firms, are already well supplied with Comparative Statistics and, so far as they are useful, are obtaining excellent results, we shall not here discuss details concerning this class. We wish it clearly understood, however, that such statistics are worthless for determining the course of the entire or general market. Comparative Statistics determine only actual values, enabling one to select safe securities or good merchandise, or to select the better of two or more securities or grades of merchandise. With the general market conditions remaining fixed, Comparative Statistics might be used for forecasting a rise or a decline; but the general market is so seldom stable, that Comparative Statistics cannot be depended upon to serve this purpose. It is this fact, that they are inadequate for analyzing general conditions, that has brought Comparative Statistics into ill-repute.

The market value of securities or merchandise may continually decline, and the actual value of the same increase, or vice versa.

Whoever bases either purchases or sales, upon earnings, physical conditions or other Comparative Statistics *WITH THE IDEA OF SELLING AT A PROFIT,* will surely lose money. Note the phrase "with the idea of selling at a profit." Such statistics may be used for selecting a safe investment or good merchandise, such as one may desire to hold permanently or possibly for a "long pull"; but they are absolutely useless for "short terms." It is because this fact is not being recognized by many firms, content with accumulating only Comparative Statistics, that even with their elaborate statistical departments, they are often on the losing side.

II. Fundamental Statistics

These relate to underlying conditions of the country and make it possible to forecast demand, supply, money conditions, etc. Fundamental Statistics, although now used by only the most careful investors and merchants, are by far the most necessary and profitable. All financial history has consisted of distinct cycles, and although of different durations, each cycle has consisted of four distinct periods; namely:

1. A Period of Prosperity.

2. A Period of Decline.
3. A Period of Depression.
4. A Period of Improvement.

Moreover the laws of nature, commerce and industry determine that these cycles will always consist of four distinct periods. The idea that prosperity can ever become permanent and will not be followed always by a business depression, or the idea that there might be an unlimited depression without succeeding general activity and high market prices, shows both ignorance of economics and utter inexperience in the business world.

A list of twenty-five subjects about which statisticians and investors systematically collect, analyze and index statistics is given in Chapter IV. These are the subjects studied by the oldest, richest and most conservative financial and mercantile houses of the world for determining which of the above mentioned periods the country is experiencing or is about to enter *at any given time*. The use of these Fundamental Statistics eliminates all guessing and uncertainty, concerning market movements.

The only requirement is to collect, tabulate, and study, the weekly and monthly figures as they are received. These plainly show whether

the general tendency of the market is upward or downward and whether it is time to buy or to sell, or to do neither. As above stated, these Fundamental Statistics are even more important than Comparative Statistics. Not only are the latter of little value, unless supplemented by these Fundamental Statistics, but experience has shown that such investors as have confined their operations to standard securities, and such merchants as have bought only staple goods, have made fortunes for themselves and their customers by a study of these Fundamental Statistics exclusively.

Conclusion

The amount of money which can be made by the study of such statistics is limited only by the original capital and the number of years the study is continued. Comparative Statistics are used for selecting securities and commodities which are absolutely safe and which have the greatest prospect of increase in market value under fixed market conditions. Fundamental Statistics are employed for determining these general market conditions and whether or not it is wise to purchase or to sell, or to do neither. Investors use this data in order to purchase se-

curities only when they are low, holding them for from three to six years until they are high, and then selling and depositing in a bank the proceeds received therefrom. After said sale, they leave the money on deposit for from three to six years, until the same securities again sell low, when they again purchase them or other securities of the highest grade.

Many such investors triple their money about every five years, with very little risk, and with little trouble. By a study of Fundamental Statistics, some individuals, with equally little risk and without any margin-purchases, but by purchasing outright, high grade dividend paying securities, have turned an investment of $5,000 into $250,000 in about twenty years. When one realizes the meaning of this,—that an investment of $20,000 grows to $1,000,000 within twenty years,—the value of Fundamental Statistics is apparent. If one is not strictly an investor, but is willing under a broker's guidance, to take advantage also of intermediate movements, which come possibly once or twice a year, much greater results are sometimes obtained.

Again, many brokers urge customers to take advantage of declines; they recommend "short-selling" in periods of great activity and pros-

perity and also the purchase of securities on margin during periods of depression. Such advice is to be expected from a broker, but with any short-selling or margin-purchases, there is connected a certain element of risk, and the investor then becomes a speculator. If margin purchases are undertaken, the margin kept should be large,—of from thirty to forty percent. Moreover, instead of selling short, the investors should buy "puts" for six months, or, if possible, for longer time, in the London market. These "puts" allow the holder to make almost as much profit as if he had sold the stock short. Any loss he may sustain is limited to the price paid for the "put," or about $125 for one hundred shares of stock.

There is no logical objection to buying on large margins; but the point which the book emphasizes is namely: *An investment of a few thousand dollars can be multiplied to an investment of several hundred thousand dollars in about twenty years with but very little risk* and without selling "short," or purchasing on margin. The only requisite is a constant study of Comparative and Fundamental Statistics, and sufficient self control to act only in accordance with what these statistics clearly indicate, refus-

ing to listen to the optimism or pessimism supplied by the daily papers and by the many individuals who are always giving free advice.

The above principles apply to bonds as truly as to stocks, and should be studied by the investors who purchase only bonds as well as those who purchase stocks. Although bonds do not fluctuate as widely as stocks, and for this reason do not present, apparently, as great an opportunity for profit, yet their minimum interest yield is absolutely fixed, which is not true even with the most conservative stocks. Bonds are especially recommended to persons dependent upon the income received from their investments; and the writer is inclined to advise that all persons should have a portion of their principal either on deposit in a bank, or else in high grade bonds, or short time notes.

Among other reasons, this advice is based on the fact that, if it becomes necessary to sell securities in order to obtain cash during a period of depression, a person may sell short term bonds or notes, with much less loss than long term bonds or stocks. However, persons who follow the theory emphasized in this book should have their principal at such times wholly, in cash or short time notes, instead of in either

stocks or long term bonds; a practice which should eliminate the objection.

Merchants who never buy or sell securities, use this data with equal profit. Fundamental Statistics clearly show the merchant when to buy and increase his stock of goods, and when to cut prices and reduce his stock. They also enable the merchant to forecast money conditions in order that he may intelligently decide whether to borrow the money necessary to allow customers further credit, or to reduce his loans and the indebtedness of his customers. Moreover, at all times, these figures show the merchant the condition of business throughout the country, so that he always knows whether the growth or contraction of his business is proportional to that of his competitors.

Upon careful thought it must be admitted that the fortunes of America's merchant princes must have been created by a knowledge of these facts, rather than by simple selling to the trade at a normal profit. Therefore, not only does the proper use of Fundamental Statistics insure a merchant against losses, but their use should be almost as profitable to him as to the investor, enabling him to double and triple his capital every few years.

Such ideas of the value of statistics should therefore be especially interesting to the small merchant with capital of, for instance, only $10,000. For there is no reason why—with Fundamental Statistics as aid to the elimination of bad accounts and unsold goods—he should not have a capital of $250,000 within about twenty years.

CHAPTER II

RANGE OF THE LEADING INVESTMENT STOCKS SINCE 1860, SHOWING HOW $2,500 INVESTED IN 1860 WOULD AMOUNT TO OVER $1,800,000 IN 1909.

The accompanying chart is designed to show the fluctuations in the leading investment stocks from 1860 to date as accurately as may be. Only the best stocks of the period are considered, so the stocks described are *as representative as possible* of the different classes of traffic and of the different sections of the country.

"Central of New Jersey" is a *minority stock,* "St. Paul" is a *speculative stock,* and "Delaware & Hudson" is a *coal stock.* The West is represented by "Great Northern," the Mississippi Valley by "Illinois Central," the South by "Louisville & Nashville"; the central and middle States by "New York Central" and "Pennsylvania." The New England States are represented by "New York, New Haven & Hartford," and "Pullman" is chosen for the most conservative industrial.

Of these ten, only three were in existence and prominent in 1860. New York Central, Illinois Central and Delaware, Lackawanna & Western

were active then and leaders still.

In 1866 "Delaware & Hudson" and in 1872 "Louisville & Nashville" became active, and in 1874 "Central of New Jersey." In 1876 "Pullman" became active and in 1889 "Pennsylvania." These are the ten stocks used exclusively until 1900 when "Delaware, Lackawanna & Western" was, for various reasons, omitted. As "Great Northern" sold for the same price, namely 91, at about that time, this is substituted in its stead.

In other words, only good stocks have been included in the list, stocks truly representative during the period considered. Stocks which have shown any abnormal rise or decline have purposely been avoided. For this reason, stocks such as "Union Pacific," "Atchison" and "Reading" have been omitted. More industrials would have been included, if they had been in existence a longer period; but, as most of the companies have been organized only ten or fifteen years, this was not possible. Therefore, the diagram may be depended upon, absolutely, as showing the fluctuations which a conservative investor may expect.

It has also been very interesting to figure the income received upon the investment, which varied from 5% to 10%. If all "rights" were

considered, the profit would often be more than 10% but in this also any possible exaggeration has been avoided. For greater exactness since "Great Northern" gave its ore certificates, the price of these certificates has been included with the price of the stock. The complete list, as it stood at the low point in 1907 and on January 1st 1909, is as follows:

	Div.	Low 1907	Div.	Jan. 1909
Central New Jersey	$8	144	$8	228
Chicago, Mil. & St. Paul	7	93	7	151
Delaware & Hudson	9	124	9	181
Gt. Northern plus 1 Ore. Cert.	.7	144	7	221
Illinois Central	7	116	7	149
Louisville & Nashville	6	85	5	126
New York Central	6	89	5	126
N. Y., N. H. & Hartford	0	127	8	161
Pennsylvania	7	103	6	132
Pullman	8	135	8	171

The list includes "Central of New Jersey," and "Chicago, Milwaukee & St. Paul," in order to tabulate a minority stock and a speculative stock. As an investment, however, others may be preferable. When substituting them, some brokers recommend that one select stocks selling for about the same prices as those omitted. It should always be remembered that an investor, when buying or selling, should not study the present prices of the stocks which he intends to purchase, but rather the prices of the ten

representative stocks in the list given above. This is because he should buy or sell *in accordance with general conditions,* and not be governed by the price of any stocks which he happens to hold. A diagram of any other ten stocks may be misleading and cause trouble.

The low and high prices of the above ten stocks from 1860 to date are given *in* the accompanying tables:

1860 AVERAGE 59-93

Lackawanna ranged from 54 (Jan.) to 99 (June); Ill. Cent. 55 (Jan.) to 89 (Aug.); N. Y. Cent. 92 (Sept.) to 69 (Dec.).

1861 AVERAGE 62-84

Lackawanna ranged from 84 (Mch.) to 65 (Dec.); Ill. Cent. 88 (Jan.) to 55 (April); N. Y. Cent. 82 (Jan.) to 68 (April).

1862 AVERAGE 71-107

Lackawanna ranged from 80 (April) to 130 (Dec.); Ill Cent. 55 (July) to 84 (Oct.); N. Y. Cent. 79 (Jan.) to 107 (Oct.)

1863 AVERAGE 106-153

Lackawanna ranged from 130 (Jan.) to 198 (Dec.); Ill. Cent. 83 (Jan.) to 126 (Aug.); N. Y. Cent. 107 (Mch.) to 140 (Sept.).

1864 AVERAGE 138-148

Lackawanna ranged from 195 (Jan.) to 265 (Sept.); Ill. Cent. 110 (Mch.) to 135 (Oct.);

N. Y. Cent. 145 (Mch.) to 109 (Oct.).

1865 AVERAGE 125-158

Lackawanna ranged from 225 (Jan.) to 199 (Mch.); Ill. Cent. 92 (Mch.) to 130 (July); N. Y. Cent. 119 (Jan.) to 85 (April).

1866 AVERAGE 99-128

St. Paul ranged from 41 (Mch.) to 64 (Nov.); Del. & Hud. 132 (Mch.) to 160 (Nov.); Lackawanna 162 (Jan.) to 127 (Feb.); Ill. Cent. 131 (Jan.) to 112 (Feb.); N. Y. Cent. 86 (Feb.) to 123 (Nov.).

1867 AVERAGE 98-122

Cent. of N. J. ranged from 125 (Jan.) to 113 (Dec.); St. Paul 25 (April) to 54 (July); Del. & Hud. 139 (Jan.) to 156 (Jan.); Lackawanna 130 (July) to 109 (Oct); Ill. Cent. 111 (Jan.) to 135 (Dec.); N. Y. Cent. 94 (Feb.) to 118 (Dec.); New Haven 114 (Jan.) to 140 (Dec.).

1868 AVERAGE 108-147

Cent. of N. J. ranged from 126 (June) to 110 (Dec.); St. Paul 46 (Feb.) to 111 (Oct.); Del. & Hud. 165 (May) to 119 (Aug.); Lackawanna 110 (Jan.) to 132 (Oct.); Ill. Cent. 130 (Jan.) to 159 (July); N. Y. Cent. 110 (April) to 159 (Dec.); New Haven 133 (Jan.) to 159 (May).

1869 AVERAGE 114-160

St. Paul ranged from 84 (Aug.) to 61 (Sept.); Del. & Hud. 134 (June) to 120 (Dec.); Lackawanna 120 (Jan.) to 104 (Nov.); Ill. Cent. 148 (May) to 130 (Dec.); N. Y. Cent. 217 (July) to 153 (Sept.); New Haven 160 (Jan.) to 120 (April).

1870 AVERAGE 102-120

St Paul ranged from 75 (Jan.) to 52 (Dec.); Del. & Hud. 115 (Mar.) to 127 (July); Lackawanna 112 (May) to 100 (Sept.); Ill. Cent. 145 (Feb.) to 129 (July); N. Y. Cent. 86 (Jan.) to 102 (June); New Haven 134 (Jan.) to 159 (June).

1871 AVERAGE 103-117

St. Paul ranged from 48 (Jan.) to 64 (Sept.); Del. & Hud. 115 (Feb.) to 125 (Dec.); Lackawanna 102 (Feb.) to 111 (Sept.); Ill. Cent. 139 (Jan.) to 132 (Oct.); N. Y. Cent. 103 (April) to 84 (Oct.); New Haven 140 (April) to 160 (June).

1872 AVERAGE 97-110

St. Paul ranged from 64 (April) to 51 (Nov.); Del. & Hud. 124 (Jan.) to 115 (Oct.); Lackawanna 112 (Mar.) to 91 (Dec.); Ill. Cent. 140 (June) to 119 (Nov.); Louis. & Nash. 81 (Oct.) to 79 (Dec.); N. Y. Cent. 101

(April) to 89 (Nov.); New Haven 148 (June) to 138 (Dec.).

1873 AVERAGE 75-106

St. Paul ranged from 62 (April) to 21 (Nov.); Del. & Hud. 124 (Feb.) to 99 (Nov.); Lackawanna 106 (June) to 79 (Nov.); Ill. Cent. 126 (Jan.) to 90 (Nov.); Louis. & Nash. 79 (Mch.) to 50 (Dec.); N. Y. Cent. 106 (Feb.) to 77 (Nov.); New Haven 142 (Feb.) to 112 (Nov.).

1874 AVERAGE 87-99

Cent. of N. J. ranged from 98 (Jan.) to 109 (Feb.); St. Paul 41 (Jan.) to 31 (May); Del. & Hud. 121 (Jan.) to 113 (Aug.); Lackawanna 99 (Jan.) to 112 (Feb.); Ill. Cent. 108 (Feb.) to 90 (Oct.); Louis. & Nash. 53 (Jan.) to 59 (Feb.); N. Y. Cent. 105 (Mch.) to 95 (May); New Haven 122 (Jan.) to 139 (Nov.).

1875 AVERAGE 87-100

Cent. of N. J. ranged from 120 (April) to 99 (Oct.); St. Paul 40 (April) to 28 (June); Del. & Hud. 110 (Feb.) to 124 (Dec.); Lackawanna 106 (Jan.) to 123 (April); Ill. Cent. 106 (April) to 88 (Oct.); Louis. & Nash. 40 (Feb.) to 36 (April); N. Y. Cent. 100 (May) to 107 (May); New Haven 133 (Jan.) to 147 (Dec.).

1876 AVERAGE 62-100

Cent. of N. J. ranged from 109 (Feb.) to 21 (Sept.); St. Paul 46 (Feb.); to 18 (Nov.); Del. & Hud. 125 (Jan.) to 61 (Oct.); Lackawanna 120 (Jan.) to 64 (Oct.); Ill Cent. 103 (Mch.) to 60 (Dec.); Louis. & Nash. 32 (April) to 24 (Dec.); N. Y. Cent. 117 (Feb.) to 96 (Sept.); New Haven 146 (Jan.) to 159 (Mch.); Pullman 70 (Jan.) to 85 (April).

1877 AVERAGE 48-76

Cent. of N. J. ranged from 37 (Jan.) to 6 (June); St. Paul 11 (April) to 42 (Oct.); Del. & Hud. 74 (Jan.) to 25 (June); Lackawanna 77 (Jan.) to 30 (June); Ill. Cent. 40 (April) to 79 (Oct.); Louis. & Nash. 26 (Mch.) to 40 (Dec.); N. Y. Cent. 85 (April) to 109 (Oct.); New Haven 146 (April) to 158 (Dec.); Pullman 75 (Feb.) to 71 (Mch.).

1878 AVERAGE 61-76

Cent. of N. J. ranged from 13 (Jan.) to 45 (July); St. Paul 54 (June) to 27 (Sept.); Del. & Hud. 59 (July) to 34 (Dec.); Lackawanna 61 (July) to 41 (Dec.); Ill. Cent. 72 (Feb.) to 85 (June); Louis. & Nash. 35 (Oct.) to 39 (Dec.); N. Y. Cent. 103 (Mch.) to 115 (Sept.); New Haven 153 (Jan.) to 162 (Nov.); Pullman 72 (Feb.) to 80 (July).

1879 AVERAGE 66-106

Cent. of N. J. ranged from 33 (Jan.) to 89 (Nov.); St. Paul 34 (Jan.) to 82 (Nov.); Del. & Hud. 38 (Feb.) to 89 (Nov.); Lackawanna 43 (Jan.) to 94 (Nov.); Ill. Cent. 79 (Mch.) to 100 (Dec.); Louis. & Nash. 35 (Feb.) to 89 (Dec.); N. Y. Cent. 112 (Mch.) to 133 (Oct.); New Haven 171 (June) to 154 (Nov.); Pullman 73 (Jan.) to 109 (Nov.).

1880 AVERAGE 87-131

Cent. of N. J. ranged from 85 (April) to 45 (May); St. Paul 66 (May) to 114 (Dec.); Del. & Hud. 60 (May) to 92 (Dec.); Lackawanna 68 (May) to 110 (Dec.); Ill. Cent. 99 (Jan.) to 127 (Dec.); Louis. & Nash. 173 (Nov.) to 77 (Dec.); N. Y. Cent. 122 (May) to 155 (Dec.); New Haven 155 (Jan.) to 180 (Oct.); Pullman 107 (Jan.) to 146 (Jan.).

1881 AVERAGE 110-137

Cent. of N. J. ranged from 82 (Jan.) to 112 (Feb.); St. Paul 101 (Feb.) to 129 (June); Del. & Hud. 89 (Jan.) to 115 (Mch.); Lackawanna 101 (Jan.) to 131 (Mch.); Ill. Cent. 124 (Jan.) to 146 (May); Louis. & Nash. 79 (Feb.) to 110 (May); N. Y. Cent. 155 (Jan.); to 130 (Dec.); New Haven 164 (Mch.) to 190 (June); Pullman 120 (Jan.) to 150 (Jan.).

1882 AVERAGE 94-134

Cent. of N. J. ranged from 93 (Feb.) to 63 (Nov.); St. Paul 128 (Sept.) to 96 (Nov.); Del. & Hud. 102 (Mch.) to 119 (Aug.); Lackawanna 116 (April) to 150 (Sept.); Ill. Cent. 127 (Jan.) to 150 (Oct.); Louis. & Nash. 100 (Jan.) to 46 (Nov.); N. Y. Cent. 123 (May) to 138 (Aug.); New Haven 168 (Feb.) to 186 (Feb.); Pullman 145 (Jan.) to 117 (June).

1883 AVERAGE 103-121

Cent. of N. J. ranged from 68 (Jan.) to 90 (Oct.); St. Paul 108 (Jan.) to 91 (Dec.); Del. & Hud. 112 (April) to 102 (Oct.); Lackawanna 131 (April) to 111 (Oct.); Ill. Cent. 148 (June) to 124 (Aug.); Louis. & Nash. 58 (Jan.) to 40 (Aug.); N. Y. Cent. 129 (Mch.) to 111 (Dec.); New Haven 169 (Jan.) to 183 (June); Pullman 134 (June) to 112 (Dec.).

1884 AVERAGE 80-115

Cent. of N. J. ranged from 90 (Jan.) to 37 (Dec.); St. Paul 94 (Jan.) to 58 (June); Del. & Hud. 114 (Feb.) to 67 (Dec.); Lackawanna 133 (Mch.) to 86 (Dec.); N. Y. Cent. 140 (Feb.) to 110 (June); Louis. & Nash. 51 (Mch.) to 22 (June); N. Y. Cent. 122 (Mch.) to 83 (Nov.); New Haven 184 (May) to 175 (July); Pullman 117 (Jan.) to 90 (May).

1885 AVERAGE 83-113

Cent. of N. J. ranged from 31 (Mch.) to 52 (Aug.); St. Paul 64 (June) to 99 (Nov.); Del. & Hud. 66 (Jan.) to 100 (Nov.); Lackawanna 82 (Jan.) to 129 (Dec.); Ill. Cent. 119 (Jan.) to 140 (Dec.); Louis. & Nash. 22 (Jan.) to 51 (Nov.); N. Y. Cent. 81 (June) to 107 (Nov.); New Haven 175 (Jan.) to 204 (Dec.); Pullman 107 (Jan.) to 137 (Nov.).

1886 AVERAGE 102-123

Cent. of N. J. ranged from 42 (Jan.) to 64 (Sept.); St. Paul 82 (May) to 99 (Sept.); Del. & Hud. 87 (Jan.) to 108 (Feb.); Lackawanna 115 (Jan.) to 144 (Dec.); Ill. Cent. 143 (Feb.) to 130 (Dec.); Louis & Nash. 33 (May) to 69 (Dec.); N. Y. Cent. 98 (Mch.) to 117 (Oct.); New Haven 204 (Jan.) to 223 (Nov.); Pullman 128 (May) to 147 (Oct.).

1887 AVERAGE 104-124

Cent. of N. J. ranged from 64 (May) to 47 (July); St. Paul 95 (May) to 65 (Oct.); Del. & Hud. 96 (Sept.) to 106 (Nov.); Lackawanna 139 (June) to 123 (Oct.); Ill. Cent. 138 (May) to 114 (Oct.); Louis. & Nash. 70 (April) to 54 (Oct.); N. Y. Cent. 114 (May) to 101 (Oct.); New Haven 208 (Feb.) to 233 (May); Pullman 159 (May) to 136 (Nov.).

1888 AVERAGE 102-129

Cent. of N. J. ranged from 73 (April) to 95 (Dec.); St. Paul 78 (Feb.) to 59 (Dec.); Del. & Hud. 103 (Jan.) to 134 (Dec.); Lackawanna 123 (April) to 145 (Oct.); Ill. Cent. 123 (Aug.) to 113 (Dec.); Louis. & Nash. 64 (Jan.) to 50 (April); N. Y. Cent. 102 (April) to 111 (Sept.); New Haven 215 (Jan.) to 244 (Dec.); Pullman 135 (April) to 175 (Sept.).

1889 AVERAGE 123-144

Cent. of N. J. ranged from 92 (Mch.) to 131 (Oct.); St. Paul 60 (Mch.) to 75 (June); Del. & Hud. 130 (Mch.) to 156 (Sept.); Lackawanna 134 (April) to 151 (Sept.); Ill. Cent. 106 (Feb.) to 118 (Dec.); Louis. & Nash. 56 (Jan.) to 87 (Nov.); N. Y. Cent. 110 (Feb.) to 104 (July); New Haven 241 (Jan.) to 279 (Sept.); Pullman 189 (Jan.) to 193 (Jan.).

1890 AVERAGE 98-141

Cent. of N. J. ranged from 128 (May) to 92 (Nov.); St. Paul 78 (May) to 44 (Nov.); Del. & Hud. 140 (April) to 120 (Dec.); Lackawanna 149 (July) to 123 (Nov.); Ill. Cent. 120 (Jan.) to 85 (Nov.); Louis. & Nash. 92 (May) to 65 (Nov.); N. Y. Cent. 111 (June) to 95 (Dec.); New Haven 224 (Jan.) to 270 (June); Pennsylvania 95 to 113; Pullman 222 (July) to 160 (Dec.).

1891 AVERAGE 95-138

Cent. of N. J. ranged from 122 (April) to 105 (June); St. Paul 51 (Mch.) to 82 (Dec.); Del. & Hud. 140 (Sept.) to 120 (Dec.); Lackawanna 130 (July) to 145 (Sept.); Ill. Cent. 90 (Mch.) to 109 (Dec.); Louis. & Nash. 65 (Aug.) to 83 (Dec.); N. Y. Cent. 98 (July) to 119 (Dec.); New Haven 271 (Feb.) to 24 (Nov.); Pennsylvania 99 to 115; Pullman 196 (Jan.) to 172 (Nov.).

1892 AVERAGE 122-142

Cent. of N. J. ranged from 111 (Jan.) to 145 (Feb.); St. Paul 75 (April to 84 (Aug.); Del. & Hud. 122 (Jan.) to 149 (April); Lackawanna 138 (Jan.) to 167 (Feb.); Ill. Cent. 110 (Jan.) to 95 (Sept.); Louis. & Nash. 84 (Jan.) to 64 (Sept.); N. Y. Cent. 119 (Mch.) to 107 (Sept.); New Haven 224 (Jan.) to 252 (June); Pennsylvania 106 to 114; Pullman 184 (Jan.) to 200 (May).

1893 AVERAGE 98-130

Cent. of N. J. 132 (Jan.) to 84 (July); St. Paul 83 (Jan.) to 46 (July); Del. & Hud. 139 (Jan.) to 102 (July); Lackawanna 127 (July) to 175 (Nov.); Ill. Cent. 104 (Jan.) to 86 (July); Louis. & Nash. 77 (Jan.) to 39 (Dec.); N. Y. Cent. 111 (Jan.) to 92 (July); New Haven 262 (Jan.) to 188 (Sept.); Pennsyl-

vania 93 (Dec.) to 111 (Jan.); Pullman 206 (April) to 132 (Aug.).

1894 AVERAGE 105-123

Cent. of N. J. ranged from 117 (Mch.) to 87 (Dec.); St. Paul 54 (Jan.) to 67 (Sept.); Del. & Hud. 144 (April) to 119 (Oct.); Lackawanna 174 (Sept.) to 155 (Oct.); Ill. Cent. 95 (Sept.) to 82 (Dec.); Louis. & Nash. 40 (Jan.) to 57 (Sept.); N. Y. Cent. 95 (May) to 102 (Aug.); New Haven 178 (July) to 197 (Dec.); Pennsylvania 96 (Jan.) to 104 (Apr.); Pullman 174 (Apr.) to 152 (July).

1895 AVERAGE 103-128

Cent. of N. J. ranged from 81 (Feb.) to 116 (Sept.); St. Paul 53 (Mch.) to 78 (Sept.); Del. & Hud. 134 (Sept.) to 118 (Dec.); Lackawanna 174 (Oct.) to 154 (Dec.); Ill. Cent. 81 (Jan.) to 106 (Sept.); Louis. & Nash. 66 (Sept.) to 39 (Dec.); N. Y. Cent. 104 (Aug.) to 90 (Dec.); New Haven 218 (June) to 174 (Dec.); Pennsylvania 97 (Jan.) to 115 (Sept.); Pullman 178 (June) to 146 (Dec.).

1896 AVERAGE 100-119

Cent. of N. J. ranged from 87 (Aug.) to 110 (Nov.); St. Paul 59 (Aug.) to 80 (Nov.); Del. & Hud. 129 (Feb.) to 114 (Aug.); Lackawanna 166 (June) to 138 (Aug.); Ill. Cent. 98 (Jan.) to 84 (Aug.); Louis. & Nash. 55 (Feb.) to 37

(Aug.); N. Y. Cent. 99 (Feb.) to 88 (Aug.); New Haven 184 (Jan.) to 160 (July); Pennsylvania 99 to 109; Pullman 164 (Feb.) to 138 (Aug.).

1897 AVERAGE 103-117

Cent. of N. J. ranged from 103 (Jan.) to 68 (May); St. Paul 69 (April) to 102 (Sept.); Louis. & Nash. 99 (April) to 123 (Sept.); Lackawanna 164 (May) to 164 (Aug.); Ill. Cent. 91 (April) to 110 (Aug.); Louis. & Nash. 40 (April) to 63 (Sept.); N. Y. Cent. 92 (Feb.) to 115 (Sept.); New Haven 160 (Feb.) to 185 (Sept.); Pennsylvania 103 (Jan.) to 119 (Sept.); Pullman 152 (Jan.) to 185 (Sept.)

1898 AVERAGE 106-133

Cent. of N. J. ranged from 84 (Nov.) to 99 (Dec.); St. Paul 83 (April) to 120 (Dec.); Del. & Hud. 114 (Feb.) to 93 (Nov.); Lackawanna 159 (Feb.) to 140 (Oct.); Ill. Cent. 96 (April) to 115 (Dec.); Louis. & Nash. 44 (April) to 65 (Dec.); N. Y. Cent. 105 (Mch.) to 124 (Dec.); New Haven 178 (Jan.) to 201 (Dec.); Pennsylvania 110 (Mch.) to 123 (Dec.); Pullman 216 (July) to 132 (Nov.).

1899 AVERAGE 123-151

Cent. of N. J. ranged from 97 (Jan.) to 126 Nov.); St. Paul 136 (Sept.) to 112 (Dec.); Del. & Hud. 106 (Jan.) to 135 (Sept.); Lack-

awanna 157 (Jan.) to 194 (Oct.); Ill. Cent. 122 (Jan.) to 105 (Dec.); Louis. & Nash. 63 (Mch.) to 88 (Oct.); N. Y. Cent. 144 (Mch) to 120 (Dec.); New Haven 198 (Jan.) to 222 (April); Pennsylvania 122 (Jan.) to 142 (Jan.); Pullman 156 (Jan.) to 207 (Oct.).

1900 AVERAGE 134-165

Cent. of N. J. ranged from 115 (Jan.) to 150 (Dec.); St. Paul 108 (June) to 148 (Dec.); Del. & Hud. 106 (Sept.) to 134 (Dec.); *Gt. Northern 211 (June) to 276 (Dec.); Ill. Cent. 110 (June) to 132 (Dec.); Louis. & Nash. 68 (Sept.) to 89 (Dec.); N. Y. Cent. 125 (June) to 145 (Dec.); New Haven 215 (Jan.) to 207 (Sept.); Pennsylvania 124 (Sept.) to 149 (Dec.); Pullman 176 (June) to 204 (Dec.).

*Great Northern is substituted here for Lackawanna with the Ore Certificates added from 1900 to 1907.

1901 AVERAGE 148-190

Cent. of N. J. 145 (Jan.) to 196 (Dec.); St. Paul 134 (May) to 188 (May); Del. & Hud. 185 (April) to 105 (May); Gt. Northern 208 (Mch.) to 167 (May); Ill. Cent. 124 (May) to 154 (June); Louis. & Nash. 76 (May) to 111 (June); N. Y. Cent. 129 (Jan.) to 174 (Nov.); New Haven 206 (Feb.) to 217 (June); Pennsylvania 161 (April)to 137 (May); Pullman

195 (Jan.) to 225 (Oct.).

1902 AVERAGE 168-201

Cent. of N. J. ranged from 198 (Jan.) to 165 (Nov.); St. Paul 160 (Jan.) to 198 (Sept.); Del. & Hud. 184 (Jan.) to 153 (Nov.); Gt. Northern 181 (Mch.) to 203 (Dec.); Ill. Cent. 137 (Jan.) to 173 (Aug.); Louis & Nash. 102 (Jan.) to 159 (Aug.); N. Y. Cent. 168 (Jan.) to 147 (Nov.); New Haven 209 (Jan.) to 225 (April); Pennsylvania 147 (Jan.) to 170 (Sept.); Pullman 215 (Jan.) to 250 (April).

1903 AVERAGE 149-190

Cent. of N. J. ranged from 190 (Jan.) to 153 (Oct.); St. Paul 183 (Jan.) to 133 (Aug.); Del. & Hud. 183 (Feb.) to 149 (Aug.); Gt. Northern 209 (Jan.) to 160 (Oct.); Ill. Cent. 151 (Jan.) to 125 (July); Louis. & Nash. 130 (Jan.) to 95 (Sept.); N. Y. Cent. 156 (Jan.) to 112 (July); New Haven 225 (Jan.) to 187 (May); Pennsylvania 157 (Jan.) to 110 (Nov.); Pullman 235 (Jan.) to 196 (July).

1904 AVERAGE 152-192

Cent. of N. J. ranged from 154 (Feb.) to 194 (Nov.); St. Paul 137 (Feb.) to 177 (Dec.); Del. & Hud. 149 (Mch.) to 190 (Dec.); Gt. Northern 170 (Mch.) to 242 (Dec.); Ill. Cent. 125 (Feb.) to 159 (Dec.); Louis. & Nash. 101

(Feb.) to 148 (Dec.); N. Y. Cent. 112 (Mch.) to 145 (Dec.); New Haven 185 (May) to 199 (Oct.); Pennsylvania 111 (Mch.) to 140 (Dec.); Pullman 209 (Mch.) to 242 (Nov.).

1905 AVERAGE 181-220

Cent. of N. J. ranged from 190 (May) to 235 (Oct.); St. Paul 168 (May) to 187 (Aug.); Del. & Hud. 178 (May) to 237 (Nov.); Gt. Northern 236 (Jan.) to 335 (April); Ill. Cent. 152 (Jan.) to 183 (Sept.); Louis. & Nash. 134 (Jan.) to 157 (Sept.); N. Y. Cent. 167 (Mch.) to 136 (May); New Haven 216 (Sept.) to 191 (Dec.); Pennsylvania 131 (May) to 148 (Aug.); Pullman 230 (May) to 258 (Aug.).

1906 AVERAGE 163-210

Cent. of N. J. ranged from 204 (May) to 239 (May); St. Paul 189 (Nov.) to 146 (Dec.); Del. & Hud. 209 (Mch.) to 189 (May); Gt. Northern 348 (Feb.) to 178 (Dec.); Ill. Cent. 164 (May) to 184 (June); Louis. & Nash. 156 (Jan.) to 136 (May); N. Y. Cent. 156 (Jan.) to 126 (Nov.); New Haven 204 (Jan.) to 189 (Dec.); Pennsylvania 147 (Jan.) to 122 (July); Pullman 270 (Nov.) to 180 (Dec.)

1907 AVERAGE 116-184

Cent of N. J. ranged from 220 (Jan.) to 144 (Oct.); St. Paul 157 (Jan.) to 93 (Nov.); Del. & Hud. 227 (Jan.) to 124 (Nov.); Gt. North-

ern 274 (Jan.) to 144 (Nov.); Ill. Cent. 172 (Jan.) to 116 (Nov.); Louis. & Nash. 145 (Jan.) to 85 (Nov.); N. Y. Cent. 134 (Jan.) to 89 (Nov.); New Haven 189 (Jan.) to 127 (Nov.); Pennsylvania 141 (Jan.) to 113 (Nov.); Pullman 181 (Jan.) to 137 (Nov.).

1908 AVERAGE 125-165

Central of N. J. ranged from 229 (Dec.) to 160 (Feb.); St. Paul 152 (Dec.) to 103 (Jan.); Del. & Hud. 181 (Dec.) to 141 (Feb.); Gt. Northern 223 (Dec.) to 162 (Feb.); Illinois Central 150 (Nov.) to 122 (Feb.); Louis. & Nash. 126 (Dec.) to 87 (Feb.); N. Y. Cent. 126 (Dec.) to 90 (Jan.); New Haven 161 (Nov.) to 128 (Jan.); Pennsylvania 132 (Dec.) to 109 (Jan.); Pullman 174 (Jan.) to 147 (Jan.).

Possibilities of Profit in Conservative Investment Stocks.

Suppose $2,500 had been invested in 1860, in the stocks given in the preceding pages, and they had been bought and sold again, every three or four years, what would have been the history of that $2,500? To what would it have amounted to-day?

In detail the answer would be as follows: Starting in 1861 with an original principal of

$2,500 and the interest (we use only simple interest instead of compound interest) for three and one-half years at 5%, amounts to $438.00. The $2,500 we invest in the leading stocks of 1861 at their average low price (as given in the preceding chapter) of 60, and hold the stocks for said 3½ years until the average price reaches 160 in 1865, when we sell for $6,560 which, together with the interest above mentioned, makes a total of $6998. We leave this amount on deposit in a bank for two years at 4%, so that we have $7,569 to invest in 1867 when the average again falls to 100. We think that with this introduction the table is self-explanatory.

Original Principal invested @ 60%	1861	$	$2,500
Dividends 3½ yrs. @ 5% to	1865	438	
Prin. bought @ 60-1681 sold @ 160	1865	6,560	
Total of Prin. & Dividends @ 5%	1865		6,998
Comp. Int. @ 4% 2 yrs. P. & I.	1867		7,569
Invested at 100 in 1867 ..			
Dividends 2 yrs. @ 5% to	1869	756	
Prin. bought @ 100-1867 sold 160	1869	12,000	
Total of Prin. and Dividends @ 5%	1869		12,756

Comp. Int. @ 4% 4 yrs. P. & I.	1873		14,920
Invested at 75 in 1877			
Dividends 1 yr. @ 5% to	1874	746	
Prin. bought @ 75-1873 sold @ 110	1874	21,780	
Total of Prin. & Divs. @ 5% to	1874		22,526
Comp. Int. @ 4% 3½ yrs. P. & I.	1877		25,844
Invested at 50 in 1877.			
Dividends 4 yrs. @ 5% to	1881	5,168	
Prin. bought @ 50-1877 sold @ 140	1881	72,240	
Total of Prin. and Divs. @ 5%	1881		77,408
Comp. Int. @ 4% 4 yrs. P. & I.			90,442
Invested at 85 in 1885			
Dividends 4 yrs. @ 5% to	1889	18,108	
Prin. bought @ 85-1885 sold @ 140	1889	149,100	
Total of Prin. and Divs @ 5%	1889		167,208
Comp. Int. @ 4% 1½ yrs. P. & I.	1891		177,275
Invested at 95 in 1891.			
Dividends 1 yr. @ 5% to	1892	8,868	
Prin. bought @ 95-1891 sold @ 140	1892	261,380	
Total of Prin. and Divs. @ 5%	1892		270,248
Comp. Int. @ 4% 5 yrs. P. & I.	1897		328,794

Invested at 100 in 1897.			
Dividends 6 yrs. @ 5% to	1903	98,634	
Prin. bought @ 100-1897 sold @ 200	1903	657,400	
Total of Prin. & Divs. @ 5%	1903		756,034
Comp. Int. @ 4% 1 yr. P. & I.	1904		786,275
Dividends 3 yrs. @ 5% through Dec..... ..	1906	117,939	
Princ. bought @ 152-1904 sold @ 210 in Dec.	1905	1,100,610	
Total of Prin. & Divs. @ 5% through Dec.	1906		1,218,549
Comp. Int. @ 4% 1 yr. to Dec. P. & I.	1907		1,267,291
Divs. 1 yr. & 1 mo. @ 5% to Jan.	1909	68,645	
Principal 165 in Jan. ...	1909	1,802,625	

In the above table 5% is allowed as an average dividend on the stocks held and 4% an average interest on the bank deposits.

The preceding example shows that $2,500 conservatively invested in a few standard stocks about forty-eight years ago would today amount to over $1,800,000. These not only are strictly investment stocks, but also are stocks which have fluctuated comparatively little in price. This, moreover, was possible by giving orders to buy or sell only once in every three or four years.

If other stocks, which were not dividend payers, but which have shown greater fluctuations, were purchased, and advantage had been taken

of the intermediate fluctuations, the $2,500 would have amounted to much larger figures. By intermediate movements is not meant the weekly movements which the ordinary professional operator notes, but the broader movements extending over many months and possibly a year or more. Nevertheless, these intermediate movements should not be noticed by a conservative investor, as it is possible to *correctly diagnose* only the major movements extending over three or four years. However, many brokers believe that it is possible to discern also these intermediate movements of six or eight months; and if so the following results would be possible."

$5,000 invested in "St. Paul" in 1870 would amount to over $10,000,000 today.

$5,000 invested in "Union Pacific" in 1870 would amount to over $15,000,000 today.

$5,000 invested in "Central of New Jersey" would amount to over $30,000,000 today.

$5,000 invested in "Northern Pacific" would amount to over $50,000,000 today.

These figures, moreover, are not based on the supposition of the investor selling at the top of every rise or buying at the bottom of every decline; but that the purchaser receives only an average "high" and average "low." A conservative investor, however, will not "put all his

eggs into one basket," especially in a speculative basket; for, if one can build an investment of $5,000 up to $1,000,000 in about thirty years with little risk, he is satisfied and will not, for the sake of obtaining greater profits, assume additional risk.

Not only is it possible to create a fortune through conservative investments, but this is practically the only method which is safe and can be depended upon. This is owing to the fact that all other methods come under the head of "accumulation by arithmetical progression" rather than "accumulation by geometrical progression."

In order to build an investment of $5,000 up to $1,000,000 in thirty years by earning and saving, a man must accumulate about $25,000 a year, or $100,000 continually every four years, without a break. This is almost an impossibility so far as the average man is concerned and the feat is simply made greater or less in direct proportion to the amount. That is, to build up a fortune of $200,000 requires a laying aside of several thousand dollars every year in addition to allowing all interest to accumulate and to build up a fortune of a few millions requires that one should make, exclusively in his business, more money each year than almost any one man

who holds no stocks or bonds is making in his business today.

This can best be illustrated as follows:—If one has $1,000 invested in only ten shares of stock, it does not seem very wonderful for it to double in value in three or four years, enabling its sale for $2,000, which is at a profit of $1,000. This is due to the fact that one is accustomed to the thought of handling $1,000; yet with $100,000 in the same stock, it would just as surely become $200,000, giving a profit of $100,000.

In other words, at the beginning there is little difference between "Arithmetical" and "Geometrical" Progression, as $1,000 *added* to $1,000 amounts to $2,000, the same as if multiplied by two. After accumulating $100,000, however, it makes a tremendous difference whether one adds $1,000 making the amount $101,000, or multiplies said amount by two, making the amount $200,000. It is for this reason, that it is not only possible to create a great fortune through conservative invesments, *but that this is probably the safest way it can be accomplished.*

A further illustration of the difference between "Arithmetical" and "Geometrical" Progression may be more striking, viz:

By Arithmetical Progression only about 150,000 *days* have elapsed since Columbus dis-

covered America and only about 1,000,000 *hours* have elapsed since George Washington was president of the United States.

By Geometrical Progression: $5,000 invested in Union Pacific stock in 1870 would today amount to $50,000,000 provided the holder once or twice a year sold his holdings or reinvested his money according to market conditions.

The Possibilities of Profits in Bonds

For the benefit of readers who confine their purchases strictly to bonds, the following tables will be found of great interest. Although bonds do not present nearly as great an opportunity for profit as stocks, yet it will be seen that there is often an opportunity of obtaining an average profit of from 10% to 20% in addition to the interest received.

From every point of view a study of these tables clearly shows that the study of Fundamental Statistics is of great value even to the banker or investor who purchases only bonds. If he buys with the idea of selling again, a study of Fundamental Statistics is absolutely essential. If one buys for permanent investment only, the study is not essential but by showing a purchaser when to buy, Fundamental Statistics will save him *an average of about* 10% *on all purchases.* In order that the reader may not think that these tables were prepared by us in the interests of the study of Fundamental Statistics we take pleasure in stating that they were prepared by a leading New York investment house; whose natural object would be to show that bonds fluctuate very little.

PANIC OF 1884.
COMPARATIVE PRICES OF BONDS.

	1884					
	Low June	High December	Rise from low	High 1885		Rise from June 1884
Burl. Cedar Rap. & Nor. 1st 5s	95¼	102	6¾	109½	Aug.	14¼
Chesapeake & Ohio 6s (Ser. A)	83	105	22	110	Mar.	27
Can., Southern 1s 5s	92	99	7	109	Dec.	17
Chi. Burl. & Quincy, Iowa Div., 4s	89	93⅓	4¼	99¾	Dec.	10¾
Chi., Mil. & St. Paul, Hastings & Dak. Div., 7s	116	120½	4½	127	Dec.	11
Chi. & Northwestern Deb. 5s	90½	96	5½	106	Oct.	15½
Del. & Hud., Penna. Div., 7s	125¼	132	6¾	137½	July	12¼
N. Y., Lack. & West. 1st 6s	115	120	5	128	Dec.	13
Hannibal & St. Jo. Consol 6s	110	115	5	119	Aug.	9
Metropolitan Elevated 6s	98	110¾	12¾	118	Dec.	20
Nash., Chat. & St. Lo. 7s	113	120½	7½	126½	Dec.	13½
New York Central 7s	127	133	6	138⅞	Dec.	11⅞
Northern Pacific General 6s	98	103½	5½	115	Dec.	17
Missouri Pacific Consol 6s	90½	97½	7	108	Dec.	17½
Rome, Wat. & Ogdensburg 5s	64	74	10	90	Dec.	26
St. Lo., Iron Mt. & So. Consol 5s	53	73	20	91	Dec.	38
Average rise.			8½			17⅛

In the panic of 1884 the storm burst in all its violence on May 14th, and the financial depression following reached its depth on the last day of June. The first of July was the great turning point. The year 1885 was one of remarkable recovery. It will be seen from the above table that the average rise of sixteen active bonds from the low in June to the high in December, 1884, was 8½%, while the average rise from the low in June, 1884, to the highest prices touched by the same bonds during the year 1885 was 17⅛%.

	1893			1894		Rise Aug. from 1893
	Low August	High December	Rise from low	High		
Canada Southern 1st 5s	99	109½	10½	114	Dec.	15
Cent. of N. J. 5s	102	114¼	12¼	117½	Aug.	15½
Chesa. & Ohio Consol. 5s	90	103½	13½	110	Sept.	20
Chesa. & Ohio Gen'l 4½s	61¾	78	16¼	78¼	Aug.	16½
C., B. & Q., Nebraska 4s	79½	87⅝	8⅛	92½	Apr.	13
Chi., Mil. & St. P. Gen'l 4s	*a*86	93	7	91⅞	Dec.	5⅞
C. C. C. & St. L., St. L. Div. 4s	89	91	2	92	Oct.	3
East Tenn., Va. & Ga. Consol. 5s	83	92	9	107	Oct.	14
Louisville & Nash. Unif. 4s	75	78¼	3¼	79⅛	Sept.	4⅛
Metropolitan Elevated 6s	112½	114¾	2¼	122	Oct.	9½
Mo., Kan. & Tex. 1st 4s	69	82½	13½	83⅛	Apr.	14⅛
Mo. Pac., Pac. of Mo. Ext. 4s	93	98	5	103¼	Dec.	10¼
N. Y., Chic. & St. L. 1st 4s	89½	98	8½	102⅝	Dec.	9⅛
Pennsylvania Co. 4½s	104¼	110	5¼	113¼	May	8½
Rio Grande Western 1st 4s	54	74	20	71½	Nov.	17½
St. L., Iron Mt. & So. Consol 5s	60	79½	19½	103⅜	May	43⅜
St. Louis Southwestern 1st 4s	50	61½	11½	62½	Dec.	12½
Wabash 1st 5s	93	103¾	10¾	107½	Apr.	14½
West Shore 1st 4s	93½	104⅛	10⅝	106¾	Dec.	13¼
			9.93			13⅜

a July: sales in August, 1893.

The panic of 1893 was one of extreme severity, being followed by an industrial depression extending over about three years. The average rise of nineteen active bonds from the low in August to the high in December, 1893, was about 9.93%, while the average rise from the low in August 1893, to the highest points touched by the same bonds during the year 1894 was about 13⅜%.

	1903			1904 high		Rise Aug. from 1903
	August low	December High	Rise from low			
Balto & Ohio, Prior Lien, 3½s	91½	96	4½	96¾	Nov.	5¼
Balto. & Ohio, Southwestern, 3½s	86½	89⅞	3⅜	94	Dec.	7½
Canada Southern 1st 5s	102½	105⅝	3⅛	106	June	3½
Cent. of N. J. 5s	126¼	131	4¾	136½	Dec.	10¼
Chi. & Alton Ry. 3½s	70¾	76½	5¾	82⅞	Dec.	12⅛
Chi., Burl. & Quincy, Ill. Div., 3½s	89½	94⅝	5⅛	97¼	Dec.	7¾
Chi. Burl. & Quincy, Nebraska, 4s	102½	105¾	3¼	107	Oct.	4½
Chi, Burl. & Quincy Joint 4s	87½	93⅞	6⅜	101⅛	Dec.	13⅝
Chi. & Eastern Ill. Consol. 5s	113¾	115½	1¾	120	Sept.	6¼
Chi Mil. & St. P. Gen'l 4s	103	111	8	112	Dec.	9
Chi, & North Western Gen'l 3½s	95½	99⅛	3⅝	100¼	Sept.	4¾
Chi, Rock Island & Pacf. General 4s	99⅝	104	4⅜	106½	Dec.	6⅞
Denver & Rio Grande 1st 4s	97½	100	2½	102½	Dec.	5
Kansas City Southern 3s	65½	70½	5	73¼	Aug.	7¾
Louisville & Nashville Unified 4s	97½	100¾	3¼	104¾	Dec.	7¼
New York Central 3½s	95	100	5	101½	Dec.	6½
Northern Pacific 1st 4s	99½	103	3½	106	Dec.	6½
Reading Gen'l 4s	94	97¾	3¾	103½	Dec.	9½
Rio Grande Western 1st 4s	94	97	3	101	July	7
St. Louis & San Francisco Ref'd 4s	78⅞	85⅛	6¼	91	Dec.	12⅛

St. Louis Southwestern Consol. 4s	66	71½	5½	83	Nov.	17
Southern Railway Consol. 5s	111½	114⅜	3¼	121	Dec.	9½
Union Pacific 1st 4s	99¼	103⅜	4⅛	107½	Dec.	7¾
Wisconsin Central 1st 4s	87	91¾	4¾	93	Dec.	6
Average Rise			4.33			8.05

The year 1903 was not marked by a financial panic, strictly speaking, although developments on the New York Stock Exchange under the great shrinkage of values there recorded were at times closely suggestive of panicky conditions. Nor did the country have to go through the throes of a great commercial convulsion, although there was necessarily some hesitation and decline in general business. Industrial and financial affairs during 1904 were again on the up-grade. The average rise of the twenty-four active bonds given in the above table from the low in August to the high in December, 1903, was 4.33%, while the average rise from the low in August, 1903, to the highest prices touched by the same bonds during the year 1904 was 8.05%. It will be observed that the decline in bond quotations during 1903 was not nearly so great as the decline in either 1884, 1893, or 1907.

UNIVERSITY OF CALIFORNIA

	High 1906	High 1907	Low 1907	Fall from High 1906	Fall from High 1907
Atchison, Top. & Sa. Fe. Gen. 4s	104½	102½	89½	15	13
Baltimore & Ohio 1st 4s	105½	102⅝	88	17½	14⅜
Baltimore & So. Western 3½s	93	90¾	80	13	10¾
Central of Georgia. Cons. 5s	114½	111	85	29½	26
Central of New Jersey Gen. 5s	132	126¼	113	19	13¼
Chesapeake & Ohio Cons. 5s	119½	116	101	18½	15
Chesapeake & Ohio Gen. 4½s	109	105¾	87	22	18¾
Chicago & Alton Ref. 3s	82½	80	58	24½	22
C. B. & Q., Ill. Div., 3½s	95¼	92½	82½	12¾	10
Ch., Rock Is. & Pac. Gen. 4s.	103¼	100½	88	15¼	12½
Ch., Rock Is., & Pac. Ref. 4s	97	91¾	80	17	11¾
Ch., Rock Is. & Pac. R. R. 4s, 2002	81½	77	49¾	31¾	27¼
Col. & Southern 1st 4s	96½	94⅜	75	21½	19⅜
Delaware & Hudson Conv.4s	112⅞	109¼	88	24⅞	21¼
Erie 1st Cons. prior 4s	102	99½	84½	17½	15
Illinois Central Gold 3½s	100	100⅞	91¼	8¾	9⅝
Kansas City, Ft. Scott & Memphis Ref. 4s	87⅞	82¾	61	26⅞	21¾
Lake Shore Deb. 4s 1931	100	93¼	83	17	10¼
Louisville & Nash. Unified 4s	104¼	101⅝	92	12¼	9⅝
Missouri, Kansas & Texas 1st 4s	103	98¾	89½	13½	9¼
Missouri Pacific Coll. 5s	108½	105	89½	19	15½
New York Central 3½s	99¾	94⅝	85	14¾	9⅝
Norfolk & Western Div. & Gen. 4s	99½	96⅛	81½	18	14⅜

Northern Pacific 1st 4s	106¼	102¼	93⅝	12⅝	8⅝
Pennsylvania Conv. 3½s 1915	101	95	83½	17½	11½
Reading Co. Gen. 4s	102⅝	98¾	86½	16⅛	12¼
Rio Grande Western 1st 4s	100	95	81	19	14
St. Louis & San Fran. Ref. 4s	88	82½	66½	21½	16
Southern Pacific Ref. 4s	97⅝	95	82	15⅜	13
Southern Ry. Cons. 1st 5s	119⅛	113¾	90	29⅛	23¾
Union Pacific 1st 4s	106¾	102½	92½	14½	10
Wabash 1st 5s	119	114	99⅝	19⅜	14⅜
Wabash, Pittsburg Term. 1st 4s	90½	80	58	32½	22
Western Maryland 1st 4s	88⅝	82½	59⅞	28¼	22⅝
West Shore 1st 4s	109	105	94	15	11
Average decline.				19.17	15.12

CHAPTER III.

COMMODITY PRICES SINCE 1860 AND PROFIT POSSIBILITIES FOR MERCHANTS.

knowledge of Fundamental Statistics is as important to merchants and manufacturers as to the investor. The commodity market offers almost as great an opportunity for profit as the stock market. Capital invested in commodities should not depend upon chance for its development. To the merchant or anyone else interested wholly or in part in the price movement of crops, manufactures, raw material or merchandise, general figures on underlying conditions, controlling demand and supply, are essential.

To know when to buy and when to sell commodities, in order to take advantage of the larger swings of the market, the merchant must know what the present conditions are and which way the pendulum is swinging. To know how soon to curtail credits extended to customers, and call in the cash that will be needed to save his capital, when loans cannot easily be renewed, he must watch underlying conditions. Keeping his eyes only on the details of his own business will

not enable him to avoid "hard times." Moreover, by broadening his study, he is able greatly to increase his profits, as well as to eliminate losses.

The study of twenty-five important factors like those described in subsequent chapters of this book, by methods similar to those there outlined, results in the perception of clearly defined industrial movements in the past and shows the bearing these factors are having to-day in commerce and industry, as well as on the monetary and stock market outlook. Great fortunes have been made, the history of which revealed the fact that their possessors had a very accurate knowledge of approaching conditions, because of a keen understanding of underlying conditions.

As an illustration of possible profits that can be made simply by the purchase and sale of commodities in connection with a study of Fundamental Statistics, the following problem is submitted. Starting with a capital of a little over fifty thousand dollars, ten commodities were selected for purchasing. Bought first in 1860, they were sold and bought again at intervals of from three to seven years, according to what the figures on "underlying conditions" indicated. The prices used are those given in the closing paragraphs of this chapter and no departure from the years selected was made, except where there was

a choice of either of two years. In such cases, it was assumed that the purchaser would buy later, sell earlier, or leave more cash on deposit as the conditions warranted. The original proportion of the different articles has been kept the same; and the sum, added to the principal on deposit in the intervals between buying and selling, has been reckoned at simple interest at 4%. Since all commodities are not affected alike by the same conditions, slight losses were allowed to occur as they would naturally. The resulting amount shows that in about forty-five years, $53,755.10 becomes $802,618.41; or that $1,000,000 would become $15,400,000. By working a similar problem with a single commodity, there would also be a distinct profit; for example, if $53,000 was invested in iron in 1860, it would have equalled to-day about $2,000,000. This clearly demonstrates that even the great mercantile fortunes have been acquired by taking advantage of the same laws and changes that give opportunities of profit to the banker and the investor.

Problem Illustrating Profits Derived From Transactions in Commodities Using Fundamental Statistics as a Guide to When to Buy and Sell, 1860 to 1909.

Basis: 1,000 tons iron; 5,000 bushels wheat; 5,000 bushels corn; 10,000 lbs. cotton; 10,000 lbs. sugar; 10,000 lbs. wool; 10,000 lbs. coffee; 1,000 lbs. rubber; 500 barrels pork; 10,000 lbs. copper.

PRICES SAME AS AT END OF CHAPTER.

Original Purchase 1860		$53,755.10
First Sales 1864		132,623.25
Capital on Dep. 3 yrs. @4% simp. int. P & I 1867		148,538.04
Second Purchase 1868	$145,746.33 1-3	
Sales (+8-9) ..1872	168,198.00	
Int. on $2,792.71 @ 4% P & I ...1872	3,351.25	
Amt. of capital after 2nd Transaction...		171,549.25
Capital on deposit 5 yrs. 4% P & I 1877		205,859.10
Third purchase 1878	202,942.08	
Sales (+4.9) ..1882	288,585.50	
Int. on $2,917.02 3 yrs. @ 4% P & I 1882	3,267.06	

Amt. of capital after 3rd. transaction ..		291,852.56
Capital on dep. 2 yrs. 4% P & I ...1884		315,200.76
Fourth Purchase 1885	314,448.00	
Sales (+8) ...1892	338,746.00	
Int. on $752.76 7 yrs. 4% P & I ...1892	963.53	
Amount of Capital after 4th transaction		339,709.93
Capital on dep. 3 yrs. @ 4% P & I..1896		380,475.12
Fifth purchase 1896	377,907.20	
.1902	574,745.60	
Int. $2,567.92 6 yrs. 4% P & I ...1902	3,184.22	
Amount of capital after 5th transaction		577,929.82
Capital on deposit year. 4% P & I 1904		601,047 12
Sixth Purchase 1904	600,315.00	
Int. on $732.01 3 yrs. P & I 1907	819.85	
Amount of capital after 6th transaction		771,748.47

Capital on Deposit 1 yr. 4% P & I to Jan. 1, 1909 ..... 802,618.41

When one realizes that if a capital of $50,000 could have been increased to over $800,000 in less than fifty years, simply by a study of Fundamental Statistics and without borrowing any money or purchasing any but suitable commodities, the great value of this subject to the merchant becomes evident. This moreover is accomplished without any salesman, overhead charges, or any employees. If to these figures we should add the natural profit derived from buying at wholesale and selling at retail, or an average manufacturing profit, the $50,000 would become nearly $20,000,000. Thus a capital of $2,500 would accrue to over $1,000,000 by combining either the manufacturer's or retailer's profit with a knowledge of Fundamental Statistics.

The largest manufacturing and mercantile firms collect data under twelve headings, or on about twenty-five subjects, as follows:

I. *Building and Real Estate*: (1) Building Operations and Fire Losses;

II. *Money Conditions*: (2) Money in Circulation, (3) Comptroller's Reports, (4) Loans of the Banks, (5) Cash Held by the Banks, (6)

Deposits of Banks, (7) Surplus Reserves of Banks;

III. *Bank Clearings*: (8) Total Bank Clearings, (9) Bank Clearings Excepting New York;

IV. *Investment Market*: (10) Stock Exchange Transactions, (11) New Securities;

V. *Business Failures*: (12) Failures, by number, amount and percentage;

VI. *Labor Conditions*: (13) Immigration Figures;

VII. *Foreign Trade*: (14) Imports; (15) Exports, (16) Balance of Trade;

VIII. *Gold Movements*: (17) Gold Exports and Imports, (18) Domestic and Foreign Money Rates, and Exchange;

IX. *Social Conditions*: (19) Political Factors;

X. *Commodity Prices*: (20) Production of Gold: (21) Commoidty Prices.

XI. *Condition of Crops*: (22) Crop Conditions and other Commodity Production.

XII. *Railroad Earnings*: (23) Gross and Net Earnings; (24) Idle Car Figures; (25) Miscellaneous.

There are, however, many firms and corporations which do not care to collect figures in such detail, and they have consolidated, rearranged and reduced these twenty-five subjects to twelve, as follows:—

1. *Building Operations* as determined by *New Railroad Constructed.*
2. *Money Market* as determined by surplus reserves or *Rates.*
3. *Mercantile Trade* as determined by *Bank Clearings.*
4. *Investment Market* as determined by *Stock Market Prices.*
5. *Failures;*—the *Ratio to the number of Concerns in Business.*
6. *Labor Conditions* as determined by *Immigration Figures.*
7. *Exports and Imports* as determined by the *Total Foreign Trade.*
8. *Gold Movements* and the *Financial Condition of Foreign Countries.*

*9. *Social Statistics* with notes on Religious and *Political Conditions.*

10. *Crops* determined by the total *Production* of *Wheat and Corn.*
11. *Commodity Prices* as determined by the *Price of Pig Iron.*

*12. *General Summary* as determined by *Railroad Earnings.*

*These are not always tabulated nor plotted.

Many claim that these twelve subjects, when properly studied, cover all the field covered by the twenty-five subjects above mentioned. For

instance; instead of studying both "Building Operations," and "Railroad Earnings," they study "Miles of New Railroad Constructed," claiming that this one subject shows all that the first mentioned two subjects show. In the same way, instead of studying "Exports" and "Imports" separately, they add them together and study the "Foreign Trade." In fact, these ten subjects have by custom come to be known among merchants as the ten Barometers of Trade. Each is important enough in extent to reflect by its good or bad state present economic conditions and likewise so sensitive to coming events as to unerringly foretell good or bad times.

The number of miles of new railroad constructed gives a clew not only to what new construction work is going on throughout the country, but also to railroad earnings, as new construction increases and decreases constantly with the increase and decrease in earnings. Moreover, many claim it is possible to forecast railroad earnings by the increase and decrease in the new mileage constructed. As to the value of figures on railroad earnings or new mileage constructed, it is universally admitted that they give a wonderful index of the times. Practically all manufactured goods, and even the supplies in the local retail stores, are shipped by the railroads; therefore, a

weekly record of freight which the railroads are carrying serves as a barometer of the business of all the farmers, manufacturers and merchants of the country. Moreover, the steel companies, the car and locomotive builders, the coal industry and one hundred other industries are directly dependent on the railroads for their prosperity. Therefore, all merchants watch railroad earnings and new mileage constructed and always reduce or increase their stock of goods in accordance with what these reports show.

Money is the basis of all trade and therefore is probably the most sensitive of all barometers. Money is the representative in value of all things traded in and the scarcity of it seriously hampers the manufacturer and merchant. Low money rates usually indicate poor present conditions but tending toward improved business; while high money rates usually signify very prosperous present conditions but often foretell a coming panic. The active merchant, however, not only studies the money rates of this country, but also the rates of the banks of England, France and Germany. Each week the Bank of England publishes a statement and makes an announcement as to the rate of discount at which it will handle first-class paper until further notice. This practically fixes the discount rate throughout Great Britain

and a continued increase or decrease of the rate in England, is sure to be followed eventually by a similar movement in this country.

The bank clearings are an extremely good barometer of present conditions and are watched with keen interest by all successful merchants and manufacturers. Many large concerns each week compare the changes in their total sales with the changes in the total bank clearings of the country. If they find that bank clearings continually show an increase while their sales remain fixed, they immediately endeavor to ascertain the reason therefore. Moreover, some firms divide the country into sections and compare by sections their sales with the bank clearings, thus having a check on the work of each individual sales office.

The transactions and prices of the stocks on the New York Stock Exchange are classed by some with politics, money and crops. The way that money is made on the New York Stock Exchange, is by anticipating price changes. The leading operators have statisticians continually studying underlying conditions in order to forecast future conditions and base their purchases and sales, on the information obtained. Therefore, a slowly sagging market usually precedes a period of depression in general business; and a slowly rising market usually precedes prosperous business conditions, *unless the decline or rise*

is artificial or caused by manipulation. In fact, if it was not due to manipulation, merchants could almost rely on the stock market alone as a barometer and let these large market operators stand the expense of collecting the data necessary for determining underlying conditions. Unfortunately, however, it is often impossible to distinguish between artificial movements and natural movements; therefore, although merchants may watch the stock market as one of the barometers, yet they can give to it safely only a small amount of weight.

Failures, both in number and amount, are especially good barometers of the condition of the retail trade. By ascertaining each month the average number of concerns in active business and the number that have failed, the percentage of failures may be readily determined. A detailed discussion of this subject will be found in Chapter VI of this book.

Figures on immigration are carefully studied by manufacturers as indicative of the condition of the labor market. Thousands of immigrants arriving at Ellis Island indicate good present conditions, with high prices for labor, up to a certain point; but too large immigration figures foretell a change in conditions followed by a period of depression. On the other hand, when large num-

bers of steerage passengers are leaving the country and the incoming steerage is reduced, business is in a state of depression, although when the tide turns, and immigrants again begin to arrive, it is a sign that conditions are improving.

As the bank clearings are used in diagnosing present conditions, figures on foreign trade are of great value in forecasting future conditions. The foreign trade of the country bears the same relation to the nation as a whole, as the retail sales of a store bear to the financial condition of the proprietors. A retailer who for any great length of time spends more money than he receives, is sure to eventually have trouble, and it is the same with a nation. Moreover, as the prosperity of the merchant is almost in direct proportion to his sales, so is the prosperity of a nation very largely dependent upon its volume of foreign trade.

Although gold movements are very important for study in forecasting money rates, they, like idle car figures, are of no value after the actual figures for rates are known. Therefore no further reference is made to them in this chapter.

Regarding politics: Trade is always dependent upon the wise conduct of our national government. War clouds, even although at first not involving our own nation, strongly affect all

commodity prices. Of course all are not affected in the same way, as a war scare increases the prices of some commodities and reduces the prices of others, but all are affected in some way and to some extent. Even the President's message and especially tariff discussion and the approach of a presidential election, greatly affect commodity prices.

Of all statistics published by the government the most important to the merchant are the Crop Reports. Most of the government figures refer to what has happened in the past, and many of these figures are published a year or more after the events happen. In the case of the crops however the government actually forecasts, therefore all crop statistics are especially valuable to manufacturers and merchants.

The crops are the mainstay of America, because approximately one-half of our population is dependent upon agriculture. Crop conditions form the basis of James J. Hill's predictions and business ventures, and probably Mr. Hill is one of our greatest students of Fundamental Statistics. The principal crops, grain and cotton, have a tremendous influence upon our wealth. Many industries and mercantile firms are absolutely dependent on the crops, and commodity prices are always more or less dependent thereon. The grain reports and cotton reports

issued by the government are watched with great interest and manufacturers and merchants even watch the weather reports throughout the west, the progress of the bollworm, the condition of crops in the Argentines and Russia and other countries. Good crops usually foretell continued prosperity, but poor crops are usually followed by a year of uncertain conditions.

Statistics on the iron industry are useful for a number of reasons. It is generally admitted that they give a key to present and future conditions better than figures on any other one commodity. The exactness with which business conditions could have been foretold in the past by figures on the production and price per ton of pig iron, is truly marvelous. Moreover, iron is one of the first commodities to fall in price and the first to rise; therefore all merchants watch the price of iron.

Railroad earnings are extremely instructive and are used by some merchants in place of some of the above subjects. The most acceptable method is to use them as a check on or as supplementary to said subjects.

Therefore each of these twelve subjects is intimately bound up with what is known as "swings" during which commodity prices change from "high" to "low" and the reverse. The history of

all mercantile trade during the past two hundred years has been divided into distinct cycles and each cycle consists of four periods; a period of prosperity, a period of decline, a period of depression, and a period of improvement. Each period is accompanied with distinct changes in commodity prices and, by comparison with similar periods in previous cycles, it is possible to determine with a measurable degree of certainty at about what period in one of these "swings" we happen to be. If the swing of the pendulum is far out over the perpendicular, we are sure that it must "swing" just as far back of the centre as forward.

The suggestion made earlier in this book, must, however, be distinctly borne in mind. No country can be prosperous unless it is progressive. No nation can stand still; it must go either forward or backward. Therefore, the normal demands of a country for new construction must show an increase each year to have conditions even remain constant. There must be a distinct increase in order to keep the vast number of our new citizens busy. Therefore, in comparing the present with the past a similar figure does not necessarily mean better conditions; but in many instances may mean an actual falling off. This is very important and must be remembered. The reader, however, will find these subjects discussed in detail in a later chapter.

Although it is not to be recommended, the barometers above mentioned, are by some, divided into two divisions, viz: Barometers for determining Present Mercantile Conditions and Barometers for determining Underlying Mercantile Conditions.

Figures used for determining present mercantile conditions:

1. Miles of New Railroad Constructed. 2. Bank Clearings. 3. Failures. 4. Iron Industry. 5. Immigration Figures. 6. Railroad Earnings.

Figures used in foretelling future mercantile conditions:

1. Politics. 2. Money. 3. Crops. 4. Stock Exchange Prices. 5. Foreign Trade. 6. Gold Movements.

Most firms, instead of interpreting the figures on each of the twelve subjects for both present and underlying conditions, prefer each month to determine what the proper normal figure should be for each of these subjects and note the relation between the actual figures for present conditions and these normal figures. The normal figure on any one subject is obtained by plotting the yearly figures on that subject for a period of ten or twenty years and by drawing on that plot

a line showing the average trend for the entire period. This trend may appear as an increase or a decrease or as a level line. Firms using this system obtain the normal figure for any future time by assuming that the general direction of this normal line will continue the same. Moreover, in such a plot it is often clearer—in the case of some subjects—to plot the *relation to a ten year average* rather than actual figures. This is especially true when plotting commodity prices and other figures which show a slight variation or seasonable changes.

In addition to the value of Fundamental Statistics for determining the trend of demand, supply, and prices, they are of even more value for determining the amount of credit which manufacturers and merchants should at any time, extend to customers; but as their use in connection with "credits" is so well understood, no detailed explanation is given in this book.

Prices of Ten Staple Commodities:
Average Wholesale Price From 1860—1907

1860

Wheat $1.37 per bu.; corn $0.73 per bu.; cotton $0.11 per lb.; sugar $0.0988 per lb.; wool $0.55 per lb.; iron $22.70 per ton; copper $0.2287 per lb.; rubber $0.55 per lb.; pork $20.00 per bbl.; coffee $0.1306 per lb.

1861

Wheat $1.30 per bu.; corn $0.60 per bu.; cotton $0.1301 per lb.; sugar $0.08¾ per lb.; wool $0.38 per lb.; iron $20.26 per ton; copper $0.2225 per lb.; rubber $0.55 per lb.; pork $21.00 per bbl.; coffee $0.1275 per lb.

1862

Wheat $1,28 per bu.; corn $0.59¾ per bu.; cotton $0.3129 per lb.; sugar $0.11⅝ per lb.; wool $0.48 per lb.; iron $23.92 per ton; copper $0.2187 per lb.; rubber $0.48 per lb.; pork $12.25 per bbl.; coffee $0.205 per lb.

1863

Wheat $1.16 per bu.; corn $0.84 per bu.; cotton $0.6721 per lb.; sugar $0.14⅛ per lb.; wool $0.75 per lb.; iron $35.24 per ton; copper $0.3387 per lb.; rubber $0.87½ per lb.; pork $18.50 per bbl.; coffee $0.2965 per lb.

1864

Wheat $2.01 per bu.; corn $1.44½ per bu.; cotton $1.015 per lb.; sugar 0.25\frac{9}{16}$ per lb.; wool $1.00 per lb.; iron $59.22 per ton; copper $0.47 per lb.; rubber $0.80 per lb.; pork $44.00 per bbl.; coffee $0.3775 per lb.

1865

Wheat $2.04 per bu.; corn $1.26½ per bu.; cotton $0.8338 per lb.; sugar $0.21⅝ per lb.;

wool $0.75 per lb.; iron $46.08 per ton; copper $0.3925 per lb.; rubber $1.20 per lb.; pork $38.00 per bbl.; coffee $0.2537½ per lb.

1866

Wheat $9.20 per bu.; corn $0.90 per bu.; cotton $0.432 per lb.; sugar $0.16⅞ per lb.; wool $0.70 per lb.; iron $46.84 per ton; copper $0.3425 per lb.; rubber $1.00 per lb.; pork $34.00 per bbl.; coffee $0.1718 per lb.

1867

Wheat $3.33 per bu.; corn $1.21 per bu.; cotton $0.3159 per lb.; sugar $0.15⅞ per lb.; wool $0.55 per lb.; iron $44.08 per ton; copper $0.2537 per lb.; rubber $0.65 per lb.; pork $24.50 per bbl.; coffee $0.16 per lb.

1868

Wheat $2.43 per bu.; corn $1.23 per bu.; cotton $0.2485 per lb.; sugar $0.16½ per lb.; wool $0.46 per lb.; iron $39.25 per ton; copper $0.23 per lb.; rubber $0.67½ per lb.; pork $30.00 per bbl.; coffee $0.115 per lb.

1869

Wheat $1.50 per bu.; corn $1.02¾ per bu.; cotton $0.2901 per lb.; sugar 0.16\frac{3}{16}$ per lb.; wool $0.48 per lb.; iron $40.61 per ton; copper $0.2425 per lb.; rubber $0.82 per lb.; pork $34.00 per bbl.; coffee $0.0931 per lb.

1870

Wheat $1.30 per bu.; corn $1.02 per bu.; cotton $0.2398 per lb.; sugar $0.13½ per lb.; wool $0.46 per lb.; iron $33.23 per ton; copper $0.2118 per lb.; rubber $1.00 per lb.; pork $30.50 per bbl.; coffee $0.10 per lb.

1871

Wheat $1.60 per bu.; corn $0.77 per bu.; cotton $0.1695 per lb.; sugar $0.13¼ per lb.; wool $0.62 per lb.; iron $35.08 per ton; copper $0.2412 per lb.; rubber $1.00 per lb.; pork $23.00 per lb.; coffee $0.1375 per lb.

1872

Wheat $1.62 per bu.; corn $0.70 per bu.; cotton $0.2219 per lb.; sugar $0.12⅜ per lb.; wool $0.72 per lb.; iron $48.94 per ton; copper $0.3556 per lb.; rubber $0.72½ per lb.; pork $16.00 per bbl.; coffee $0.1631 per lb.

1873

Wheat $1.76 per bu.; corn $0.63 per bu.; cotton $0.2014 per lb.; sugar $0.11⅜ per lb.; wool $0.50 per lb.; iron $42.79 per ton; copper $0.28 per lb.; rubber $0.74 per lb.; pork $18.00 per bbl.; coffee $0.1862 per lb.

1874

Wheat $1.39 per bu.; corn $0.86 per bu.; cotton 0.1795 per lb.; sugar $0.10 $^{9}/_{16}$ per lb.;

wool $0.53 per lb.; iron $30.19 per ton; copper $0.22 per lb; rubber $0.75 per lb.; pork $24.75 per bbl.; coffee $0.2625 per lb.

1875

Wheat $1.33 per bu.; corn $0.84 per bu.; cotton $0.1546 per lb.; sugar $0.10 $\frac{9}{16}$ per lb.; wool $0.52 per lb.; iron $25.53 per ton.; copper $0.2268 per lb.; rubber $0.58½ per lb.; pork $23.50 per bbl.; coffee $0.1806 per lb.

1876

Wheat $1.35 per bu.; corn $0.62¾ per bu.; cotton $0.1298 per lb.; sugar $0.10⅜ per lb.; wool $0.38 per lb.; iron $22.19 per ton; copper $0.21 per lb.; rubber $0.64 per lb.; pork $22.75 per bbl.; coffee $0.175 per lb.

1877

Wheat $1.63 per bu.; corn $0.59¼ per bu.; cotton $0.1182 per lb.; sugar $0.11 $\frac{5}{16}$ per lb.; wool $0.50 per lb.; iron $18.92 per ton; copper $0.19 per lb.; rubber $0.58 per lb.; pork $17.95 per bbl.; coffee $0.1943 per lb.

1878

Wheat $1.24 per bu.; corn $0.53½ per bu.; cotton $0.1122 per lb.; sugar $0.09 $\frac{7}{16}$ per lb.; wool $0.36 per lb.; iron $17.67 per ton; copper $0.1656 per lb.; rubber $0.49 per lb.; pork $11.35 per bbl.; coffee $0.1385 per lb.

1879

Wheat $1.24 per bu.; corn $0.47 per bu.; cotton $0.1084 per lb.; sugar $0.08⅝ per lb.; wool $0.37 per lb.; iron $21.72 per ton; copper $0.1862 per lb.; rubber $0.51 per lb.; pork $13.75 per bbl.; coffee $0.1387 per lb.

1880

Wheat $1.30 per bu.; corn $0.55 per bu.; cotton $0.1151 per lb.; sugar 0.09\frac{15}{16}$ per lb.; wool $0.46 per lb.; iron $28.48 per ton; copper $0.2143 per lb.; rubber $0.81 per lb.; pork $19.00 per bbl.; coffee $0.15 per lb.

1881

Wheat $1.30 per bu.; corn $0.62 per bu.; cotton $0.1203 per lb.; sugar $0.09¾ per lb.; wool $0.42 per lb.; iron $25.17 per ton; copper $0.1818 per lb.; rubber $0.76 per lb.; pork $20.00 per bbl.; coffee $0.1212 per lb.

1882

Wheat $1.32 per bu.; corn $0.77 per bu.; cotton $0.1156 per lb.; sugar $0.09½ per lb.; wool $0.42 per lb.; iron $25.77 per ton; copper $0.1912 per lb.; rubber $0.87 per lb.; pork $24.75 per bbl.; coffee $0.0975 per lb.

1883

Wheat $1.17 per bu.; corn $0.64 per bu.; cotton $0.1188 per lb.; sugar $0.08¾ per lb.;

wool $0.39 per lb.; iron $22.42 per ton; copper $0.165 per lb.; rubber $1.07 per lb.; pork $20.15 per bbl.; coffee $0.0931 per lb.

1884

Wheat $1.00 per bu.; corn $0.61½ per bu.; cotton $0.1098 per lb.; sugar $0.06¾ per lb.; wool $0.35 per lb.; iron $19.81 per ton; copper $0.13 per lb.; rubber $0.96 per lb.; pork $19.50 per bbl.; coffee $0.1062 per lb.

1885

Wheat $0.94 per bu.; corn $0.51 per bu.; cotton $0.1045 per lb.; sugar $0.06¾ per lb.; wool $0.32 per lb.; iron $17.99 per ton; copper $0.1083 per lb.; rubber $0.56 per lb.; pork $13.25 per bbl.; coffee $0.09 per lb.

1886

Wheat $0.88¾ per bu.; corn $0.52¼ per bu.; cotton $0.0928 per lb.; sugar $0.0653 per lb.; wool $0.33 per lb.; iron $20.93 per ton; copper $0.1385 per lb.; rubber $0.61 per lb.; pork $12.20 per bbl.; coffee $0.095 per lb.

1887

Wheat $0.88 per bu.; corn $0.48¾ per bu.; cotton $0.1021 per lb.; sugar $0.0623 per lb.; wool $0.34 per lb.; iron $20.93 per ton; copper $0.1385 per lb.; rubber $0.76 per lb.; pork $24.00 per bbl.; coffee $0.1684 per lb.

1888

Wheat $0.94 per bu.; corn $0.59¼ per bu.; cotton $0.1003 per lb.; sugar $0.0602 per lb.; wool $0.29 per lb.; iron $18.88 per ton.; copper $0.1677 per lb.; rubber $0.76 per lb.; pork $16.00 per bbl.; coffee $0.1581 per lb.

1889

Wheat $0.91 per bu.; corn $0.43¾ per bu.; cotton $0.1065 per lb.; sugar $0.0718 per lb.; wool $0.35 per lb.; iron $17,76 per ton; copper $0.1349 per lb.; rubber $0.74 per lb.; pork 13.37½ per bbl.; coffee $0.1765 per lb.

1890

Wheat $0.92 per bu.; corn $0.48½ per bu.; cotton $0.1107 per lb.; sugar $0.0789 per lb.; wool $0.33 per lb.; iron $18.41 per ton; copper $0.156 per lb.; rubber $0.80 per lb.; pork $13.62½ per bbl.; coffee $0.1793 per lb.

1891

Wheat $1.05 per bu.; corn $0.67½ per bu.; cotton $0.086 per lb.; sugar $0.0627 per lb.; wool $0.31 per lb.; iron $17.52 per ton; copper $0.1276 per lb.; rubber $0.78 per lb.; pork $13.00 per bbl.; coffee $0.1671 per lb.

1892

Wheat $0.908 per bu.; corn $0.54 per bu.; cotton $0.0771 per lb.; sugar $0.0465 per lb.;

wool $0.28 per lb.; iron $15,75 per ton; copper $0.1156 per lb.; rubber $0.6763 per lb.; pork $15.05 per bbl.; coffee $0.1430 per lb.

1893

Wheat $0.739 per bu.; corn $0.499 per bu.; cotton $0.0856 per lb.; sugar $0.0435 per lb.; wool $0.24 per lb.; iron $14.52 per ton; copper $0.1075 per lb.; rubber $0.7167 per lb.; pork $21.80 per bbl.; coffee $0.1723 per lb.

1894

Wheat $0.611 per bu.; corn $0.509 per bu.; cotton $0.0694 per lb.; sugar $0.0484 per lb.; wool $0.20 per lb.; iron $12.66 per ton; copper $0.0952 per lb.; rubber $0.6744 per lb.; pork $14.57½ per bbl.; coffee $0.1654 per lb.

1895

Wheat $0.669 per bu.; corn $0.477 per bu.; cotton $0.0744 per lb.; sugar $0.0412 per lb.; wool $0.18 per lb.; iron $13.10 per ton; copper $0.1053 per lb.; rubber $0.7425 per lb.; pork $12.87½ per bbl.; coffee $0.1592 per lb.

1896

Wheat $0.781 per bu.; corn $0.340 per bu.; cotton $0.0793 per lb.; sugar $0.0412 per lb.; wool $0.17 per lb.; iron $12.95 per ton; copper $0.1098 per lb.; rubber $0.80 per lb.; pork $10.85 per bbl.; coffee $0.1233 per lb.

1897

Wheat $0.954 per bu.; corn $0.319 per bu.; cotton $0.07 per lb.; sugar $0.0453 per lb.; wool $0.21 per lb.; iron $21.10 per ton; copper $0.1136 per lb.; rubber $0.8454 per lb.; pork $9.00 per bbl.; coffee $0.0793 per lb.

1898

Wheat $0.952 per bu.; corn $0.376 per bu.; cotton $0.0594 per lb.; sugar $0.045 per lb.; wool $0.28 per lb.; iron $11.66 per ton; copper $0.1205 per lb.; rubber $0.9271 per lb.; pork $12.30 per bbl.; coffee $0.0633 per lb.

1899

Wheat $0.794 per bu.; corn $0.413 per bu.; cotton $0.0688 per lb.; sugar $0.0497 per lb.; wool $0.29 per lb.; iron $19.36 per ton; copper $0.1776 per lb.; rubber $0.9954 per lb., pork $10.45 per bbl.; coffee $0.0604 per lb.

1900

Wheat $0.804 per bu.; corn $0.453 per bu.; cotton $0.0925 per lb.; sugar $0.0492 per lb.; wool $0.28½ per lb.; iron $19.98 per ton; copper $0.1665 per lb.; rubber $0.9817 per lb.; pork $16.00 per bbl.; coffee $0.0822 per lb.

1901

Wheat $0.803 per bu.; corn $0.567 per bu.; cotton $0.0875 per lb.; sugar $0.0532 per lb.;

wool $0.25 per lb.; iron $15.87 per ton; copper $0.1672 per lb.; rubber $0.8496 per lb.; pork $16.80 per bbl.; coffee $0.0646 per lb.

1902

Wheat $0.836 per bu.; corn $0.684 per bu.; cotton $0.09 per lb.; sugar $0.0505 per lb.; wool $0.26 per lb.; iron $22.19 per ton; copper $0.1216 per lb.; rubber $0.7273 per lb.; pork $18.70 per ton; coffee $0.0568 per lb.

1903

Wheat $0.853 per bu.; corn $0.372 per bu.; cotton $0.1118 per lb.; sugar $0.0446 per lb.; wool $0.31⅛ per lb.; iron $19.91 per ton; copper $0.1372 per lb.; rubber $0.9054 per lb.; pork $18.37 per bbl.; coffee $0.0559 per lb.

1904

Wheat $1.107 per bu.; corn $0.594 per bu.; cotton $0.1175 per lb.; sugar $0.0464 per lb.; wool $0.32⅛ per lb.; iron $15.57 per ton; copper $0.1301 per lb.; rubber $1.0875 per lb.; pork $16.58 per bbl.; coffee $0.0782 per lb.

1905

Wheat $1.028 per bu.; corn $0.593 per bu.; cotton $0.098 per lb.; sugar $0.0477 per lb.; wool $0.36 per lb.; iron $17.88 per ton; copper $0.1589 per lb.; rubber $1,2425 per lb.; pork $16.50 per bbl.; coffee $0.0832 per lb.

1906

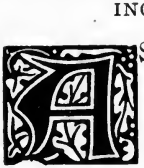
Wheat $0.865 per bu.; corn $0.56 per bu.; cotton $0.115 per lb.; sugar $0.0526 per lb.; wool $0.33 per lb.; iron $20.98 per ton; copper $0.1961 per lb.; rubber $1.2131 per lb.; pork $20.00 per bbl.; coffee $0.0811 per lb.

1907

Wheat $0.963 per bu.; corn $0.64 per bu.; cotton $0.121 per lb.; sugar $0.0465 per lb.; wool $0.34 per lb.; iron $23.89 per ton.; copper $0.2125 per lb.; rubber $1.0633 per lb.; pork $17.56 per bbl.; coffee $0.0658 per lb.

CHAPTER IV.

FUNDAMENTAL STATISTICS OF USE IN DETERMINING WHEN TO BUY AND SELL.



S shown in the first chapter of this book, the study of Comparative Statistics is of little value for ascertaining the best time to buy or to sell, and one must resort to Fundamental Statistics.

In approaching the work, although other methods may seem sufficient for a general view of the conditions, the need of direct and definite results leads the student to seek a systematic, comprehensive, and uniform practice, so that a basis of comparison, from period to period, may be established at the outset. The course usually followed by the leading statisticians when studying Fundamental Statistics is to collect data, covering a long period of years, and relating to the following twenty-five subjects under twelve headings; Moreover, these twelve headings correspond almost identically with the twelve subjects mentioned in chapter III.

I. Building and Real Estate

1. BUILDING OPERATIONS (WITH FIRE LOSSES),

and Real Estate Operations as Barometers of the country's property growth.

II. Money Conditions

2. MONEY IN CIRCULATION.
3. COMPTROLLER'S REPORTS (this is the only one of the twenty-five subjects for which no figures can be obtained monthly).
4. LOANS OF THE NEW YORK BANKS.
5. CASH HELD BY THE NEW YORK BANKS.
6. DEPOSITS IN THE NEW YORK BANKS.
7. SURPLUS RESERVES OF THE NEW YORK BANKS.

III. Bank Clearings

8. TOTAL BANK CLEARINGS OF THE UNITED STATES.
9. BANK CLEARINGS OF THE UNITED STATES, EXCLUDING NEW YORK.

IV. Investment Market

10. STOCK EXCHANGE TRANSACTIONS. Tables on number of shares traded in, the bond sales, and the high and low prices of the ten leading stocks used by the Babson System as a Barometer. The latter tables contain the high and low prices for each year since 1859, and the high and low for the current year, revised each month.
11. NEW SECURITIES. Tables for the new securities listed on the New York Stock

Exchange and figures relative to other issues publicly offered or authorized, but as yet unlisted.

V. Business Failures

12. BUSINESS FAILURES. Tables on number of failures, amount of liabilities, and ratios.

VI. Labor Conditions

13. LABOR STATISTICS. Tables of immigration figures and notes on the general situation.

VII. Foreign Trade

14. IMPORTS OF MERCHANDISE INTO THE UNITED STATES.

15. EXPORTS OF MERCHANDISE FROM THE UNITED STATES.

16. BALANCE AND VOLUME OF TRADE.

VIII. Gold Movements

17. GOLD MOVEMENTS with tables on the exports, the imports and the balance of gold movements.

18. DOMESTIC AND FOREIGN MONEY RATES AND FOREIGN EXCHANGE, with tables on the rates in London, Paris, and Berlin.

IX. Social Conditions

19. POLITICAL FACTORS.

X. Commodity Prices

20. PRODUCTION OF GOLD. Tables giving the production in the Rand Mines which best show the trend in the production of the entire world.

21. PRICES OF COMMODITIES, including wheat, corn, cotton, iron, copper, etc.

XI. Crops and Commodity Statistics

22. CROP CONDITIONS AND PRODUCTION OF COMMODITIES, including pig iron, and copper.

XII. Railroad Earnings

23. RAILROAD GROSS AND NET EARNINGS (ten railroads) with annual figures for all railroads relative to the new mileage constructed, etc.

24. IDLE CAR FIGURES for the current year and the corresponding months of the preceding two or three years.

25. MISCELLANEOUS STATISTICS.

Although the system should not be recommended, these figures are treated by some firms as follows:

Each week the figures published on railroad earnings, bank clearings, money rates, stock market transactions, and other items, are used for ascertaining present conditions; while reports of crops, idle cars, gold movements, balance of trade, failures, etc., received from time to time, are the foundation for estimating the underlying conditions. These estimates for present and underlying conditions are expressed in numbers as two barometer figures. These are used, as described

later, for determining the "trend" from week to week, and for obtaining the earliest possible information as to any change in the mercantile, money, or investment market.)

Figures on the majority of these twenty-five subjects can be obtained not oftener than monthly and therefore final totals need be studied but once each month. These are inserted each month in their respective tables, and serve as a means of making an intelligent estimate of what will be the total figures for each of the twenty-five subjects at the end of the current year.

This estimate for the year is then compared with the final figures for the preceding years as given under the first mentioned table. If there has been a normal growth or change,—sometimes a favorable showing requires an increase or sometimes a decrease,—the figures on a given subject are considered as signifying satisfactory conditions; but if a growth or change is not normal, the figures are considered as showing unsatisfactory conditions. In other words, satisfactory conditions require a normal change, and figures of much less than normal, or much more than normal, are considered unsatisfactory.

The industrial organization of the country is similar to the physical organization of the human body. The individual normally should have a

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certain degree of appetite which he knows is normal and requires a normal amount of food. The normal appetite increases from childhood to youth, and from youth to maturity; but its relation to health is the same. So long as he regularly eats a normal amount, a man continues to increase in strength and vitality; but if he overeats, or is underfed, he ceases to gain strength, his efficiency is reduced, and he becomes subject to attacks of disease. As, therefore, the maintaining of good health requires a certain *normal* balance, so do the prosperous conditions of industrial life. This however, does not mean a mathematical constant, as in a rapidly growing country like America, the figures to be normal *must increase in proportion as the wealth, population and activity of the country increases.* Great increases or great decreases are distinctly not normal and are always significant of a marked change; a change for the better, in a time of depression, when present conditions are very unsatisfactory; or a change for the worse during a period of prosperity, when present conditions are apparently very satisfactory.

The figures on these twenty-five subjects are kept permanently bound in a loose leaf ledger, which is usually divided into twenty-five sections. It often takes many years to accumulate these

figures, as they represent slow and careful research. But they are the foundation of all investigations and it is impossible to make practical use of Fundamental Statistics excepting in connection with these tables for preceding years and months.

The twenty-five subjects in the list above outlined are arranged in the order in which they are accumulated, but for weekly and monthly analyses they are usually grouped differently and classified under the three following headings:—

1. Tables used when studying mercantile Conditions.
2. Tables used when studying monetary conditions.
3. Tables used when studying investment conditions.

In detail this classification is as follows:

(*The sub-division into* PRESENT *and* UNDERLYING *conditions is not recommended. It is preferable to interpret each set of seven subjects simply as to* PRESENT *and* NORMAL *conditions.*)

1. Figures Used When Studying Mercantile Conditions

(a) For determining *present* mercantile conditions.

(1) Railroad Earnings.

(2) Bank clearings.

(b) For determining *underlying* mercantile conditions.

(1) Crops and general production.

(2) Building reports and the U. S. Steel "Booked Order" account.

(3) Idle cars.

(4) Commodity prices.

(5) Labor conditions.

2. Figures Used When Studying Monetary Conditions

(a) For determining *present* monetary conditions.

(1) Monetary rates and supply.

(2) Confidence.

(b) For determining *underlying* monetary conditions.

(1) Surplus reserve and other items of the New York bank statement and the Comptroller's reports.

(2) Balance of trade, imports, exports, and gold movements.

(3) Foreign money rates and foreign exchange.

(4) New securities issued and new corporations organized.

(5) Money in circulation.

3. Figures Used When Studying Investment Conditions

(a) For determining *present* stock-market conditions.
  (1) Average price for leading railroad and industrial stocks.
  (2) Total stock exchange transactions.
(b) For determining *underlying* stock market conditions.
  (1) Average mercantile and monetary conditions.
  (2) Political factors.
  (3) Great conflagrations, earthquakes, etc.
  (4) Failures.
  (5) Gold production.

Investors and merchants who carefully study these figures will each week obtain two barometer figures, one for present conditions and also one for normal conditions, for each of the above three headings. In addition, they average these three barometer figures for present conditions and obtain a final summary barometer figure for present conditions. They also average the three barometer figures for normal conditions and obtain a final summary barometer figure for normal conditions.

Practically speaking, the barometer figures on present conditions are mathematically correct as they are obtained by comparing the actual figures on earnings, bank clearings, money rates, stock exchange prices, transactions, etc., with certain scales of measurement and averaging the final result. These figures on present conditions, therefore, are not a matter of opinion and any two persons using the same scale would arrive at the same conclusion. In the case of the barometer figures for normal conditions, the method is somewhat different. Although the basic figures are derived by the use of a fixed scale, the result is often modified in accordance with other data at hand, and according to the opinions of the investor or merchant making the deductions.

To arrive at a conclusion, the summary barometer figures, obtained each week, are compared with the results of previous weeks of other years. If, for instance, the final barometer figures for a long period of weeks, show a continuous but slow increase, the country is surely facing improved conditions, however poor business may appear to the average merchant. On the other hand if, during a period of great prosperity, the barometer figures show a gradual decrease, a reverse in business conditions is certain. This principle ap-

plies to the barometer figures both for present conditions and for normal conditions.

If the barometer figure for normal conditions is much less than that for present conditions, the indication is that there is liable to be a change for the worse at any time; but if the figure for normal conditions is considerably more than that for present conditions, a change for the better may be looked for at any time. Moreover, the greater the difference between the respective barometer figures for present conditions and normal conditions, the sooner the change may be expected. When the figures are approximately the same, the conditions will probably remain as they are and are known as "irregular." The best conditions are usually signified by plus 100 or over, and the most unsatisfactory, by minus 100 or less.

In addition to the above, business men watch for the monthly figures on each of the twenty-five or more subjects above mentioned. and as these figures are received each month, they have a clerk post them in the proper columns in the "ledger." This results in giving the firm a ledger similar to those which contain the accounts of their customers. The difference is simply that this ledger contains the accounts known as "Failures," "Bank Clearings," etc., instead of accounts

of certain debtors such as "John Smith" and "Henry Jones."

This method, as we have described it, may seem complicated at first thought, and the mass of data required too great to be handled easily; but such is not the case. Although there are a large number of figures to study, yet the points to be remembered are very simple; viz: In determining *present conditions,* watch railroad earnings and bank clearings for *mercantile* affairs; money rates and confidence for *monetary* affairs; and "Stock Market" prices and transactions for *investment* affairs; keeping clearly in mind that while certain subjects, require an increase for normal conditions, others should show a decrease, and that abnormal figures in either direction are unsatisfactory.

Firms desiring to figure *underlying conditions,* watch crop estimates, construction and building statistics, idle cars, reports, etc. for *mercantile* affairs; the New York statement, the balance of trade, gold movements and foreign money rates for *monetary* conditions; and when determining *investment* conditions, watch all of the above and especially consider political factors and important international events. Although theoretically it is proper to consider "underlying" conditions, yet practically it is not advisable.

Too much emphasis cannot be laid upon the danger of confusing different analyses, as often a figure which shows improved present conditions is significant of unsatisfactory future conditions. For instance, when money rates gradually increase and surplus reserves gradually decrease after a period of depression, the combination is significant of improved present conditions. Also when commercial paper is discounted at 3½% , one may always be sure that the country is not prosperous; but that many factories are idle and many men out of work. As the mills resume operations and as business becomes more active, money rates increase and surplus reserves decrease. This is all shown by higher barometer figures for present monetary conditions.

On the other hand, as money rates increase and the surplus reserves decrease, the change is significant of unsatisfactory future conditions. In other words, when money rates are *below* normal it shows business is *dull*, but will be better; and when money rates are *above* normal, it shows that business is good, but may soon be worse.

Of course if this data were obtained by each investor, merchant or banking house independently, it would require a force of clerks to collect, analyze and sort the mass of figures; but as the data

may now be obtained from a central agency, all of the drudgery is eliminated. The investor or merchant may simply note the new barometer figures as they are made up each week and insert in the permanent ledger the final monthly figures as they are received each month.

So long as the barometer figures show no decided change, the merchant or investor may give no attention to the monthly figures other than to see that they are entered in the ledger. On the other hand, if at any time a comparison of the barometer figures shows that a distinct change in business conditions is imminent, the merchant may refer to the yearly and monthly tables as appearing in his ledger and determine for himself the exact nature and amount of the change. By referring to the monthly figures published for the current year, he may readily compare them with the figures for the same months of the past few years and form an estimate of what the total annual figures for the current year will be. After making this estimate for the total current year, it may be readily compared with the final annual figures for preceding years, which comparison will clearly indicate the trend of business conditions.

In addition to carefully studying all subjects independently and separately, he is very careful

to consider each subject under its proper heading. That is, when studying present conditions he first gives his entire attention to present *mercantile* conditions, studying simply subjects relating thereto; secondly, gives his attention to present *monetary* conditions, studying only subjects relating thereto; and thirdly gives his attention to *investment* conditions, with the same care. After referring to the tables in this way and deducing three separate conclusions, he takes an average of these conclusions, thus forming his final summary on present conditions. In the same way, when studying normal conditions, he first studies the subjects in forecasting *mercantile* affairs and forms his conclusions therefrom; secondly, the subjects used for *monetary* affairs; and thirdly, the subjects connected with *investment* affairs. To make independently a satisfactory examination in this way requires only a few hours. Usually the investor or merchant is satisfied to depend upon the barometer figures furnished by the central agency, and does not make a personal examination more than once or twice a year, excepting in times of panic. *This is especially true if the weekly barometer figures are supplemented by charts—revised monthly—for each of the twelve main subjects or headings previously mentioned. With these charts show-*

ing the relation between the actual and the normal, all thoughts of "underlying" conditions may be ignored, thus greatly simplifying the work.

But whenever the time or money expended, the merchant, investor, or banker never regrets these investigations, as they give him a clear idea, not only of present conditions but also of the normal conditions and consequently of what he may expect in the future. If, during a period of depression, uncertainty, and discouragement, the barometer figures and the charts show distinctly that the country is about to enter a period of prosperity, investors buy stocks, merchants buy goods, and the banker extends loans. The result is that when prosperity returns the investors and merchants find that they have purchased very much below the prevailing prices and are liable to obtain many times the profit that they otherwise would.

During a period of great prosperity and extravagance, when everybody is buying goods or securities and there is a general increase of indebtedness, if these barometer figures and charts show a change for the worse, the investors sell their securities for cash, the merchants reduce their stock and outstanding credits, and the bankers reduce loans or place a large part of them "on call." These statistics therefore, not only serve

as an insurance against loss, but enable these men to be prepared to take advantage of the very low prices which are sure to recur in the course of a year or two.

The Chart System is possible, as the figures for underlying conditions bear a constant ratio to the difference between the figures for present conditions and normal conditions. By obtaining proper figures under each of the twelve headings for normal conditions and comparing therewith the figures for present conditions the result is self evident. The reason for this may appear clearer by remembering that all underlying conditions may be classified as "unsatisfactory," "normal or satisfactory," or "ultra conservative."

Unsatisfactory underlying conditions exist when the figures are dangerously abnormal or when the pendulum has swung too far towards the dangerous side and must, by force of gravity, soon fall. Very satisfactory or ultra conservative underlying conditions exist when the figures are abnormally conservative or when the pendulum has swung too far on the conservative side and must, by force of gravity, soon fall. Satisfactory or normal conditions exist when the figures are normal and the pendulum is swinging not too far in either direction from the center.

CHAPTER V.

EVENTS AND CONDITIONS SINCE 1860 WITH EACH YEAR TREATED INDEPENDENTLY

1860

ONDITIONS were very unsatisfactory; Lincoln was elected in November and the Southern States immediately thereafter gave notice of their secession. This caused a financial crisis, and, for the first time in the history of the country, clearing house certificates were issued. The failures for the year were 3676; pig iron, of which 821,223 tons were produced, sold at an average price of $22.70 per ton; 1837 additional miles of railroad were constructed; 150,237 immigrants entered the country; the clearings amounted to over $7,230,000,000 while exports and imports together amounted to over $687,000,000. These apparently normal figures, however, were due to presumably satisfactory conditions during the first eight or nine months of the year. The "drop" came at the time of the election and of high money rates in November.

1861

Conditions at the beginning of the year were very unsatisfactory and continued so during the

first six months. There were 6,993 failures; the production of pig iron decreased to 653,164 tons and the price decreased to $20.26 per ton. Only 660 miles of new road were constructed and less than 90,000 immigrants came to the country; the clearings fell off to less than $6,000,000, and the foreign trade to about $500,000,000. But the people soon recovered courage, and the last portion of the year saw a change for the better. In March, the Morrill tariff law was passed, which gave a special impetus to mercantile and manufacturing business, and by the close of the year a period of improved conditions was well under way with easier money rates.

1862

This year the failures fell to 1652; the pig iron produced amounted to over 700,000 tons and the price to about $24 per ton. There were 834 new miles of railroad constructed and the immigration was practically the same as the preceding year; the clearings increased to over $6,870,000,000, but the volume of foreign trade decreased to about $380,000,000, thus showing that the period of improvement had gained strength.

1863

The failures declined to 495 and the iron production increased to 846,000 tons with an increase in price to over $35 a ton. There were 1050 additional miles of railroad constructed, immigration increased to over 174,000, and the clearings increased to nearly $15,000,000,000. Moreover, foreign trade increased to over $447,000,000.

This year the first horse car line was constructed in New York City, and the Erie railroad began to pay dividends. Moreover, Congress aided the movement toward prosperity by passing certain laws for the inflation of the cur- disastrous to the country, temporarily hastened the period of prosperity.

1864

This period of prosperity was at its full height at the beginning of 1864. The failures had increased slightly numbering 520; the iron production amounted to over 1,000,000 tons with a phenomenal high price of $59 per ton. Only 738 miles of new road were constructed, but nearly 200,000 immigrants entered the country. The bank clearings increased to over $24,000,000,000, nearly double the total for the previous year and four times the amount for 1862. Foreign trade increased to over $475,000,000, but money rates were high.

This year in connection with the stock of the Harlem River R. R., a corner took place which, together with the figures above mentioned, showed clearly that conditions were unsatisfactory and that a change for the worse might be expected at any time. The men who saw this change sold their stocks either late in 1864 or at the beginning of the next year.

1865

The failures again increased to 530 and the pig iron production decreased sharply to about 830,000 tons, while the price fell to $46 a ton. 1177 miles of new road were constructed and over 247,000 immigrants arrived. The bank clearings showed very little increase, amounting to only $26,000,000,000; and foreign trade fell off to about $400,000,000. Money rates were still high.

Had it not been for Lee's surrender, these figures would have been much more unsatisfactory, but the fact that the war had closed, caused sufficient rejoicing to counteract many other evils. The shooting of Lincoln, however, again upset matters and owing to the unsatisfactory conditions of the two previous years, stocks which sold at a high average price of $158 in the early part of the year fell to an average of $125 before the year ended.

1866

This decline of stocks was continued in 1866, when the average fell to $99, a decline which was anticipated by those who had been watching the trend of figures closely. This year the first official crop reports were published by the national government.

Corn and wheat produced this year amounted to over 1,000,000,000 bushels. The failures increased 300% numbering over 1500, showing that the severe period of decline, which had begun the previous year, had become well-developed. In fact this was generally considered a year of distinct depression and gloom. Notwithstanidng the very great number of failures, iron production increased to over 1,200,000 tons and the selling price averaged $46 per ton. 1716 miles of new railroad were constructed, the clearings showed a slight increase amounting to over $28,000,000,000 foreign trade increased to over $780,000,000, thus showing that underlying conditions had begun to improve, even although surface conditions and the stock market showed no improvement. After the war closed, banking conditions became more settled and money became easier.

1867

Although this year the two major crops were slightly less, declining to 980,761,400 bushels, and failures had increased to 2780, yet there was also a slight increase in the iron production. This production showed an increase of 100,000 tons, with only a small decrease in the price per ton. Moreover, 2249 miles of new railroad were constructed and the bank clearings held their own with the value of foreign trade only slightly lower. Stocks were still very low, the average being 98 compared with a high point of over 158 two years earlier. Surface conditions were still very bad, yet it was plainly to be seen that they were rapidly becoming more normal and that a rise in stocks was imminent, especially as money rates had declined.

1868.

The expected advance came the following year, when the average price increased from 98 in 1867 to 147 in 1868. The crops of corn and wheat were over 1,130,000,000 bushels; the failures decreased from 1.33% to .94% compared with the number of firms in business; the iron production increased to over 1,400,000 tons; 2979 miles of railroad were constructed; bank clearings again showed no decline, but held their own and there was but a slight reduction in foreign trade.

The increase in the price of stocks, however, was more or less artificial, as this was the year of the great contest between the Erie Railroad, represented by Drew and Fiske, and the New York Central, represented by Commodore Vanderbilt, the former winning by having the Erie put out a convertible bond issue and then immediately converting the bonds into cash. Owing to this and other unfortunate incidents, the student saw clearly that, although business was improving, the underlying conditions in the stock market were unsatisfactory; that is, the great rise was not wholly founded on improved underlying conditions. Moreover, the money situation was not truly satisfactory.

1869

That this analysis of the situation was decidedly correct was proved by the history of 1869, for this year witnessed the famous "Black Friday" panic when the gold exchange suspended and many large stock exchange firms failed. This is one of the incidents where special events upset the general trend of conditions. Had it not been for the unfortunate operations of certain speculators, the period of prosperity which was just beginning, would have had a much longer duration. Crops of 1869 exceeded those

of any previous year; the failures decreased to .79%; iron production increased to 1,700,000 tons at a price of over $40 a ton. Over 4615 miles of new railroad were constructed and over 350,000 immigrants came to the country. The bank clearings showed a phenomenal increase, amounting to over $37,000,000,000, and the foreign trade exceeded $700,000,000. As was the case, however, with the Harlem corner in 1864, the "Black Friday" panic of this year seemed to create a wound that would not heal, so that although business continued to increase and surface conditions appeared to be more favorable, underlying conditions grew more and more unsatisfactory every day and money rates continued high. The leading bankers and merchants who were studying these underlying conditions and watching the relation between actual and normal figures, disposed of their securities and reduced their merchandise.

1870

Had it not been for the fine crops of 1870—which showed figures largely in excess of any previous year—there would have been a more rapid decline in business conditions. As it was, however, the failures increased to .83%, iron production dropped to 1,565,179 tons and the

price to $33.23 a ton, the lowest for eight years. However, 6,078 miles of new railroad were constructed; immigrants continued to arrive in great numbers, the total being 387,000, while foreign trade reached a volume of $828,000,000. Bank clearings, on the other hand, showed a considerable falling off, although the year as a whole was looked upon by business men as prosperous. Many of those who were not acquainted with the true condition of affairs increased their stocks of goods and extended their loans. As the stock market was steady, insiders acquainted with the conditions had no trouble in disposing of the small number of shares which they had not sold during the preceding year. This also may have been due to the fact that money was much easier during this year.

1871

The crops this year amounted to only 1,220,000,000 bushels; the failures to 2915 and iron production to 1,700,000 tons at a price of $35 per ton. There were 7379 miles of new railroad constructed and foreign trade increased to over $963,000,000. There was a falling off, however, in immigration and the increase in bank clearings was only normal. This too was the year

of the great Chicago fire which caused money rates to again increase,brought to an abrupt end the period of prosperity and inaugurated a slow but gradual period of decline in business.

1872

This year the country had better crops which amounted to 1,342,000,000 bushels or about the same as in 1870. The failures, however, increased to .77% and iron production took a jump to 2,500,000 tons with an increase in price to $49 a ton. This great increase of iron production was probably due to the perfection of commercial methods of making Bessemer and open hearth steel, greatly increasing the demand for all grades of pig-iron, but especially the lower grades. Construction, which is always clearly indicated by the number of additional miles of railroad reported—which this year amounted to only 5878—was very much less than usual. Immigration, however, increased to over 400,000 new arrivals and the bank clearings to over $33,000,000,000. Foreign trade showed a small increase and money rates were again erratic.

1873

Still conditions would probably have improved this year had it not been for the big Boston fire,

which occurred November 11, 1872, and caused money rates to still further advance and which was the last straw to break the camel's back. The Pacific Railroads, opened in the year 1869, were largely owned in New England and the promoters of both State Street and Wall Street had been borrowing money heavily of the insurance companies. These loans the insurance companies were now obliged to call. Moreover, the preceding year was the culmination of the Erie tragedy when James Fiske was shot and Erie stocks were struck from the New York Stock Exchange. Money had been very high in 1872 and men of affairs clearly saw at the beginning of 1873, that it would be impossible to continue business under existing conditions and that a house cleaning would be necessary. Consequently, when crop reports continued to point to small harvests, which later turned out to be about 100,000,000 bushels less than the preceding year, and when the number of failures showed a distinct increase, things were allowed to seek their own level. That is, the large bankers and merchants withdrew their support and business began to decrease immediately. The production of iron kept up to the figures of the preceding year, but the price dropped to $42 a

ton. Moreover, railroad construction decreased to about 4,000 miles, although the figures for immigration, bank clearings and foreign trade, still held firm.

Conditions at this time are interesting to study as they show clearly the three steps in the progress of a decline and the precipitation of a crisis: *first,* the large bankers and merchants sell their securities and reduce their merchandise, while the public is very optimistic; *second,* after some special event has taken place, in this case the Boston fire, which convinces these bankers and great merchants that the time has come for a house cleaning,—they withdraw their support, although the people are still bullish and the ordinary store-keeper is borrowing money to buy goods; and *third* comes the panic itself,—which in the case of the great panic of 1873 caused the failure of J. Cook & Co. and many other firms. This panic made imperative the closing of the New York Stock Exchange from September 18 to the 30th. This third step is the beginning of the decline in the eyes of the ordinary merchant, manufacturer and laborer. And in reality, until this third phase comes,there is no decline in surface conditions, although underlying conditions have been unsatisfactory for a year or more,

during which time bankers and merchants who study underlying conditions, had been preparing for the depression.

1874

This was another year of poor crops, the total production of iron and wheat decreasing to 1,158,000,000 bushels. Failures increased to .97%; iron production fell off and the price decreased from $42 to $30 a ton. Railroad construction decreased to only 2117 miles; immigration fell off to nearly 150,000 and bank clearings fell from $35,000,000,000 in 1873 to $22,000,000,000 in 1874, accompanied with a decrease in foreign trade. Thus the period of decline was changing to a period of depression, augmented by granger laws which were being passed by the railroads and the usual unsatisfactory money conditions.

1875

This was a year of good crops of wheat and corn, together amounting to over 1,613,000,000 bushels. Mercantile failures, however, showed a great increase, viz: to 1.21%; iron production dropped to 2,000,000 tons and the price to $25 a ton. Moreover, only 1711 miles of railroad were constructed, the smallest number for ten years, and immigrants decreased nearly another hundred thousand. Railroad earnings showed

a tremendous falling off, and both the Erie and the Wabash defaulted interest on their bonds. Money continued high and confidence was greatly upset. Bank clearings, on the other hand, showed a slight increase and foreign trade a slight decrease, thus showing that the period of depression had set in. The business depression, however, relieved the money market and rates gradually decreased.

1876

Commercial failures increased to 1.33% of the firms in business; iron production decreased to 1,868,000 tons and the price to $22 a ton. New mileage increased somewhat, but immigration fell off further to 169,000; bank clearings to about $21,000,000,000 and the foreign trade to $1,000,000,000. These figures, it will be seen, reached the most unsatisfactory point for several years and a study shows that they were considerably below normal and that the liquidation had been very thorough. Money had become easier and stocks were very low owing to a general rate-war between the trunk lines. In fact, the Pacific of Missouri was foreclosed this year and the public became very much discouraged. All who had been connected with stocks had lost their money, prominent bankers and

merchants had failed, railroads were carrying traffic at a loss, mills and factories were idle, and the ordinary business man was thoroughly discouraged. Money rates however, were less than at any time since 1860.

These facts showed that the pendulum had swung too far the other way, but knowing that business conditions are like the pendulum which after wide swings in either direction, tends to resume a normal position in response to the laws of gravity, investors and merchants who were studying the conditions and comparing figures saw clearly that this was the year in which to buy stocks, make plans for further extensions, and prepare for the period of improved conditions which was bound to come. In fact, the stocks which these investors sold at an average of $160 a share in 1869 many now purchased, at an average of $62 a share, while others who waited until the beginning of the following year purchased at an average price of $42.

1877

As is usual, the business of a merchant, manufacturer and store-keeper continues poor a year after conditions really begin to improve and the stock market begins to advance. Therefore, although students of the situation saw a change

for the better the preceding year, it was not until this year that any change was apparent in mercantile conditions, and then it was but slight. This year brought good crops which amounted to over 1,700,000,000 bushels; failures, for the reasons given above, increased compared with the number of firms in business, to 1.36%; iron production increased to over 2,000 tons (although the price dropped further to $18.92 per ton); immigration figures continued to decline, but the rate of decline gradually diminished. Bank clearings, however showed a slight increase to $23,000,000,000, foreign trade to $1,050,000,000 and money rates continued low.

The country was in extreme depression at the beginning of the year, yet with the good crops, railroad earnings and confidence improved. Moreover, money rates gradually decreased so that Christmas 1877, was a time of thanksgiving for many who had escaped being crushed during the preceding five years.

1878

This year crops still further increased by another 100,000,000 bushels. Failures also increased in number, showing that the effect of the depression on smaller firms was not yet over, and also that the statistics of failures are

about the last to show an improvement. Yet iron production was increased to a total of 2,301,-215 tons, while the price declined only about $1 a ton; railroad construction showed no further decline, but advanced to 2665 miles and there was but a slight decline in immigration. Bank clearings practically held their own and foreign trade showed a distinct increase. As such an increase prevented gold exportations and further strengthened the money conditions at home, the year was considered by all as one of distinct improvement.

1879

Again, the country was blessed with good crops which amounted to nearly 2,000,000,000 bushels, and failures decreased phenomenally to less than 1%, the lowest for five years. Moreover, iron production increased to over 2,700,-000 tons and the price to over $21 per ton. Railroad construction nearly doubled, amounting to 4809 miles and immigration showed a distinct increase for the first time for six years; bank clearings increased to over $25,000,000,000 and foreign trade to $1,156,000,000.

In fact the entire year witnessed an improvement so marked that at the end of the twelve months, mills were in full operation, all labor

employed, and the entire country in a very prosperous condition. Money rates strengthened somewhat, but not severely.

1880.

This year marked the beginning of another period of distinct prosperity. The crops amounted to over 2,215,000,000 bushels. The failures decreased to .63%,—with one exception the lowest point on record,—iron production increased about 50% to 3,800,000 tons with an increase in price to $28 a ton. The new mileage constructed amounted to 6711 miles and immigration increased from 177,000 in 1879 to 257,000 in 1880. The most noticeable change in all the statistics was in bank clearings, which increased to $37,000,000,000 and foreign trade to $1,500,000,000.

Stocks were very active, money normal, confidence reigned throughout the country, consolidations were in progress, new industries were started, new railroads were projected and everyone was elated over the fact that the country was once more prosperous. Moreover, Garfield the candidate for the Republican party, always representative of business interests, was elected President in November. Money was constantly in more demand and the rates were gradually increasing.

1881

Although the general public considered this year one of great prosperity, there were certain events which caused the barometers for *underlying* conditions to begin to decline, and before the year 1881 closed, the underlying conditions were very unsatisfactory. The crop outlook was poor and the year ended with a crop failure, the wheat and corn production decreasing to about 1,578,000,000 bushels. The percentage of failures began to increase, and although the price of iron decreased, the production increased above the normal. Moreover, 9846 miles of railroad were constructed, and amount four times greater than that four years before; immigration began to increase in new proportions and bank clearings increased to the abnormally large sum of $48,000,000,000. Foreign trade showed no appreciable increase.

Money conditions were not satisfactory, tremendous stock issues were being floated, and large stock dividends were being declared. To the outsider everything appeared to be very prosperous, yet the careful student saw plainly, that true conditions were not what they should be and needed only some sudden dis-

turbing event, to bring about disaster,—such an event as the Harlem corner in 1864 and the Boston fire in 1873.

This sudden event turned out to be the shooting of President Garfield on July 2, 1881, after which event, the bankers and merchants who kept careful watch of conditions decided to sell. Therefore, in 1881 they sold, at an average of $137 a share, securities which some of them had purchased at an average of $62 in 1876 and others at an average of $48 a share in 1877.

1882

Fortunately however for those who had not already liquidated, this year was another year of splendid crops, the country producing over 2,121,000,000 bushels of wheat and corn. Failures increased and iron production expanded far above a healthy amount, while railroad new construction reached the high figure of 11,599 miles, the greatest new mileage for any year in the history of the country. A very large number of immigrants arrived, 788,000, and bank clearings continued to hold up to $46,000,000,000 which was far in excess of normal conditions.

Therefore, although students of the business conditions clearly understood during the preceding year that trouble would soon come, the public apparently was absolutely unaware of it and as in 1870, continued to buy goods, increase their loans, and to extend their credit. In fact the average merchant and speculator seemed perversely to do everything possible to make the break greater when the large bankers and merchants should withdraw support for, although the decline had set in, it was not perceived by the general public. As mentioned in the account of the year 1873, there are three steps in every decline; and the second, that in which the leaders withdraw their support, had not come, for this was the year in which Jay Gould made his famous exhibit of securities. As will be seen by referring to the newspapers of that day, it was clearly understood by men of affairs that a distinct decline had begun and Gould probably knew this as well, if not better, than any other man. Therefore, although he was preaching that true conditions were perfectly sound and that still greater prosperity was ahead, he himself was doubtless unloading and liquidating with all possible speed in preparation for the withdrawal of his support later on. Moreover,

the banks were aiding their directors by keeping down money rates although the demand for money was very great.

1883

The crops for this year were not up to the preceding year, amounting to only 1,972,000,000 bushels. Moreover failures continued to increase, reaching a percentage of 1.06%; iron production fell off and the price dropped to $22.42 a ton; railroad construction declined about 40%, and bank clearings fell off to $40,000,000,000 for New York City. Heretofore these were the only clearings available. Beginning this year, clearings were published for the entire country and now amounted to $51,699,823,752. As this new figure is more valuable for forecasting conditions, it will be the one to which we shall refer henceforth. Fortunately for the country and for those who had not liquidated, foreign trade still remained strong, the volume for the year being $1,500,000,000.

The stock market also held up remarkably well although high prices were maintained only through manipulation and in order to allow the insiders the opportunity to liquidate. In other words, although stocks continually declined, beginning in 1881, when they had reached a high

point of $137, they reached another high point of $134 in 1882 and $121 in 1883. All who were thoroughly acquainted with the situation knew that these prices were kept up simply to allow the insiders to liquidate and that as soon as they had liquidated and withdrawn their support, the decline would be much more rapid. In the same way money rates were not allowed to seek their true high level.

1884

When this support was actually withdrawn in 1884, money rates immediately advanced and the prices of stocks immediately dropped to the proper level under such unsatisfactory conditions, —that is to about $80 a share. This drop was simultaneous with the great Ward and Grant failure on May 6, 1884, together with the failure of Henry Villard and James R. Keene of the same year. Now the bankers had sold their securities, loans were immediately called, rates marked up, and everything possible done to make other people liquidate. Receivers were appointed for many of the railroads and the third step mentioned in our description of the year 1873 was now completed. Crop conditions were somewhat against these insiders, as this was another year of fine crops, corn and wheat

amounting to over 2,300,000,000 bushels; but the failures increased again to 1.21%, iron production fell off to about 4,000,000 tons and the price to less than $20 per ton. New mileage amounting to over 11,000 miles in 1882, decreased to less than 4,000 miles in 1884. Not only was this cessation in construction necessary owing to the stringency in the money market but it was one of the means used by the large bankers for withdrawing their support. Immigration showed a large decrease and clearings dropped to $44,165,126,355, accompanied by a decline of about $150,000,000, in foreign trade.

If it had not been for the good crop reports during this year, probably stocks would have declined very much further, but under the circumstances they dropped only to an average of $80. In fact, the election of Grover Cleveland in November did not seem to break the market very severely and many bankers and investors decided that this was a time to again purchase, being able to obtain at an average of $80 a share what they sold at an average of $137 in 1881. As it happened, however, the following year was still to be one of depression and those who did not purchase in 1884 still had an opportunity to obtain these stocks below $90 during the following year, 1885.

1885

This was a year of distinct depression, with the customary accompaniments; cheap money and general activity. The crops were fairly good, wheat and corn amounting to 2,293,000,000 bushels. Failures showed a percentage of 1.16% and only about 4,000,000 tons of iron were produced at a price of $17.99 a ton. Only 3131 miles of new railroad were constructed this year and the immigration amounted to less than 400,000 persons. The total bank clearings amounted to only about $47,439,303,599 and the foreign trade to $1,320,000,000. The falling off in both immigration and bank clearings was tremendous and these, together with figures for new railroad construction show conclusively the state of trade during this year. Moreover, there were no prospects of improved conditions, except that the liquidation had been thorough. The ten stocks already mentioned in this book, which sold at an average of $80 in 1884, sold at an average of $83 at one time during this year, 1885. As in previous instances, therefore, there was a set-back in prices after the first advance, showing that investors have about one year in which to purchase securities. Although purchases should be made before there is an im-

provement in surface conditions, they need not be purchased at the time of the first break, and no great haste is necessary.

1886.

The crops this year showed a slight falling off, but this was due more to a smaller acreage than to smaller crops. The percentage of failures was reduced to 1.01% and the iron production increased to 5,683,000 tons with an increase in price to $18.71. Immigration still further decreased to 334,000, but the new mileage constructed amounted to 8128 miles and the clearings increased to $49,247,681,400 while the volume of trade practically held its own. These figures show that a period of improvement had commenced, and although many small merchants were only beginning to feel the effects of the great depression, true conditions were distinctly more than normal and the pendulum was swinging too far the other way. In view of this, stocks began to rally and plans for extensions and large undertakings were again discussed. Moreover, the defeat of the various bills, which were introduced into Congress for the reduction of the tariff caused a special increase of confidence among manufacturers, wholesalers and bankers. Money rates also remained normal which greatly encouraged new enterprises.

1887

Although the total crops for this year were slightly below that of previous years, other factors were distinctly favorable, and in the early part of the year there was a great advance in the stock market,—an advance altogether too great for a year preceding a presidential election. As above stated, however, underlying conditions rapidly improved; failures decreased to .90%; iron production increased to over 6,400,000 and the price to over $20 a ton. The number of miles of railroad constructed increased to 12,983 miles; immigration showed an increase of about 150,000 which was the greatest for a number of years. Clearings again showed an increase to a total of nearly $51,091,236,324 and foreign trade increased to over $1,400,000,000. As the two preceding years were years of improvement, this year ushered in the year of prosperity, during which, had it not been for the fact of the presidential election coming the following year, stock market prices would have doubtless greatly increased. This is especially true since money rates continued fairly low throughout the year.

Owing to the fact that a presidential election is usually accompanied by a decrease in trade,

as shown by lower figures for bank clearings, etc., stock market operators believed that there must be of necessity, a distinct drop before the election. Consequently they turned to the "bear" side for a few months. The result of this movement was that if one had sold during the early part of 1887 he could have again purchased the same securities for about 25 points less in 1888. It is important to notice at this point that although prosperity may begin just preceding an election, if so, it always suffers a temporary set-back before reaching its zenith. When the election comes after two or three years of prosperity, it is generally a sign of a period of decline.

1888

As true conditions were on the conservative side of normal, and as the period of prosperity had not been of long duration, having only just begun, this shock was bound to be only temporary, especially as in this year of 1888 the crop outlook was good, wheat and corn, amounting to 2,400,000,000 bushels. Being a presidential year, the failures increased 1% and there was no marked increase in the iron production,—in fact, the price fell off about $2 a ton. Only 7028 miles of railroad was constructed and the bank clearings declined to about $49,484,584,175.

Immigration, however, again increased to over 546,000, the volume of trade to $1,419,000,000, while money rates continued fairly normal.

As the Democrats were defeated and General Harrison, of the Republican party elected, there was immediate improvement in all business conditions, including a rebound in stock market prices to the former high level of over a year before.

1889

This was another year of prosperity, with the greatest crops in the history of the nation, up to this time, amounting to over 2,500,000,000 bushels in corn and wheat. The year showed no appreciable increase in failures, iron production increased to 7,600,000 tons with but a slight decline in price. The decrease for new railroad mileage constructed fell to 5,695 miles, but as the country was now well served with railroad mileage, average figures meant even more than very high figures a few years previous to this. The decrease in immigration was largely due, to this decrease in railroad mileage, bank clearings increased to over $56,110,250,-455 and the foreign trade increased to $1,487,-000,000.

1890

This was a year of crop failures and the last year of the period of prosperity. The country was in a very prosperous condition and as the average man did not realize or even suspect a change in conditions until about a year after fundamental conditions began to show a decline, there was no increase in failures, but rather a decline. The iron mills had not yet caught up with their orders so that this year witnessed the greatest iron production in the history of the country, amounting to 9,202,000 tons. The price, moreover, increased to $18.41 with the same number of new miles of railroad constructed as the previous year, which, under existing conditions, was very great. Immigration showed further increase, bank clearings jumped to over $60,546,563,997, and the foreign trade to over $1,647,000,000. Both of these latter figures were the largest in the history of the country. Money rates, however, were increasing and the supply of new funds rapidly diminishing.

In addition, this year saw the effects of "Morgan's Gentlemen's Agreement" adopted by the large railroad systems. Bankers, however, were now watching for the proverbial "unexpected event," and this came in the Baring failure.

This failure, although of an English firm, seriously affected the stock market of America and students of underlying conditions recognized it as the death-knell of the period of prosperity, having the same effect as the "Harlem Corner" in 1866, the great fires of 1872, and the shooting of President Garfield in 1881. By saying that, in the eyes of the great bankers and merchants, it brought this period of prosperity to an end, we do not refer to the immediate drop in prices caused directly by the Baring failure, as the prices rebounded immediately afterward. But we refer to the decline which started eighteen months later, in the early part of 1892. However, the wise investors and merchants did not wait for 1892 before preparing to liquidate. In fact, many had already liquidated before the Baring failure, when the average price of stocks stood at over $140, knowing that such extremely prosperous conditions as existed in the early part of this year, could not possibly last.

1891

Although the McKinley tariff, passed in the fall of 1890, temporarily relieved the tension, yet the money situation was very unsatisfactory.

Although bankers and merchants acquainted with true conditions were liquidating with all

possible speed, the average manufacturer and store-keeper had not the slightest idea of any change in conditions. This was especially true, owing to the abundant crops of this year 1891, which amounted to over 2,670,000,000 bushels, the largest crops in the history of the country up to this time and not again to be exceeded, excepting slightly in 1896, until 1902, a period of ten years. These fine crops caused the newspapers to be especially bullish, and, as there was no appreciable increase in failures and but a small decrease both in iron production and in the number of miles of new railroad construction, this was a prosperous year for the country as a whole. Immigration again increased by 110,000 arrivals and foreign trade to 1,729,000,000, although bank clearings fell off slightly. These factors enabled the bankers and merchants to keep down money rates from further advancing and to bolster up the market in order to unload their securities and merchandise. Consequently, although true conditions were very far from normal and the pendulum was far over to the dangerous side, yet, as may be seen from the periodicals and daily papers of that year, the people thought 1891 a very satisfactory year and that prosperity was bound to continue for many years to come.

1892

With the beginning of 1892, syndicates and stock operators who had not already liquidated, made one great and final effort to put up the market, and succeeded. Those who did not liquidate in 1890 when the average for our ten stocks stood at $141, or in the preceding year when they could have also sold at the same price, now sold on the receipt of the first private crop returns. As detected early by such men, this was a year of poor crops, the total yield of wheat and corn declining to about 2,140,000,000 bushels. However, failures still showed the very low percentage of .88% and pig iron production again increased to 9,157,000 tons. The price, on the other hand, decreased to $15.75 a ton. New railroad construction held its own at 4,584 miles; immigration again increased to 623,000; bank clearings to over $61,919,126,622, and the volume of trade to over $1,850,000,000. These more satisfactory figures were printed and distributed broadcast by the press as an apparent demonstration that the period of prosperity was certain to continue several years longer, although prosperity had already lasted too long. Moreover, this was also an election year and the banking situation was very unsatisfactory,

although money rates were temporarily depressed. Therefore, students of the situation saw clearly that the period of decline was well under way, although this was not realized by the average investor and business man until the following year. In the fall of 1893 Ex-President Cleveland was re-elected and, although prices were held up a few months longer by sheer manipulation, the end was plainly in sight.

1893

This feeling became generally evident early in 1893 when the crop reports began to be published, and they were none too pessimistic, as the final total crop of wheat and corn amounted to only about 2,000,000,000 bushels. Failures increased sharply to 128% and pig iron production fell off about 2,000,000 tons with a decrease in price of over $1 a ton. Only 2789 miles of railroad were constructed and immigration fell off to 502,000. Bank clearings fell off to $53,143,527,108 and foreign trade to $1,714,000,000. This year the change in conditions became apparent to all classes, as mills began to run on half time, collections became poor, and general conditions unsatisfactory. In fact, support of all kinds had been withdrawn, every commodity, including money, was allowed to seek its own level, and

every merchant to take care of himself as best he could. This therefore was a year when securities might have been repurchased. In fact, those persons who had sold in 1890 at $141 now repurchased at $98 as they had waited three years. Those who sold out during the preceding year at $142 had several opportunities during the coming few years to purchase these securities at almost as low figures, as they dropped to $105 in 1894, $103 in 1895 and $100 in 1896.

1894

This year in reality witnessed the greatest crop failure in the history of the country. The crops had fallen below 1,600,000,000 bushels during the 70s, yet a very much smaller area was then under cultivation and conditions were entirely different. As figures clearly show, a small increase or decrease in crops does not affect business excepting sentimentally, but a great failure such as was witnessed in 1894 gave the country a shock from which it took years to recover. The business failures of this year showed no decrease over the preceding year, but the output of iron fell to 6,657,000 tons with a very low average price of $12.66 a ton which was less than the cost of production. The new railroad mileage decreased to over

2157 miles and immigration showed the greatest falling off in percentage in the history of the country. This same statement is true of bank clearings which fell off from $54,143,527,108 in 1893 to $45,460,058,609 in 1894. There was also a decrease in foreign trade. Therefore, this year was one of distinct depression, and for a long period to come, the country was to suffer from the effect of the calamity. In addition to the crop failures, the Pullman strike occurred, and the Wilson bill affecting the tariff was also passed; in fact, 1894 was apparently the worst year since the Civil War. Nevertheless, the banking situation was greatly improved and money rates again declined.

1895

This year was one of great gloom. The effect of the preceding two years,—during which so many bankers and merchants failed, and one-third of the total railroad mileage of the United States fell into the hands of receivers,—began to have its effects upon all labor and even upon the most humble store-keeper. Mills were shut down; great poverty existed in the cities and distress was felt everywhere. At the beginning of this year there was no sign of improvement. As soon as the crop estimates were published, how-

ever, it was seen that they were very favorable, and when the harvest was computed at the end of the year a grand total of 2,618,000,000 bushels was recorded. As the crop reports improved, they exerted a good influence upon general conditions. Failures decreased to 1.09% and iron production increased nearly 3,000,000 tons with an increase in price. New mileage, however, decreased to 1938 miles, immigration to 280,000 persons, while foreign trade also fell off, although bank clearings showed an increase.

Conditions doubtless would have taken a turn for the better had it not been for the very unfortunate conditions of the finances and the great exportation of gold. Although President Cleveland did everything within his power to uphold the gold standard and the credit of the United States, the drain was too heavy, especially after his famous Venezuela message. The possibility of war with our greatest foreign creditor, viz: England, naturally caused great excitement and prevented any improvement which otherwise would have been due at this time.

1896

Notwithstanding the unfortunate exportation of gold and the Venezuela message of the

preceding year, which temporarilly caused high money rates in 1896, Providence was gracious to the country and gave abundant crops, which exceeded those of the preceding year. Failures showed an increase and iron production a decrease, both in tonnage and in price, yet there was a slight increase in the number of miles of new railroad constructed and a distinct increase in immigration, New York bank clearings, and foreign trade. Therefore, although there were no signs of better times in surface conditions, underlying conditions became much sounder. Had it not been for the alarm felt at the Democratic nomination of Bryan in June, this would have been from its very beginning, a year of distinct improvement. When the election of McKinley in the fall of 1896 removed this cause of distrust, bankers and merchants who were studying the situation became convinced that a change for the better was imminent.

1897

Although the crops this year did not amount to the tremendous harvests of the two preceding years, they exceeded 2,430,000,000 bushels, which was very satisfactory. Moreover, the failures decreased to 1.26% and iron production increased to over 9,650,000 tons. New mileage again increased to 2,188 miles, bank clearings

to over $57,229,070,956 and foreign trade to over $1,800,000,000. There was a still further decline in immigration this year, but other points were favorable and underlying conditions were becoming more and more satisfactory every month. As we have already suggested, however, the effect upon the country of so many shocks, beginning with the great crop failure of 1894 and ending with the Bryan scare of 1896, was too severe for rapid recovery. Accordingly, even this year, stocks which were sold in 1890 or 1892 for about $140 could still have been purchased at an average of $103. Money rates, however, were again very much lower in 1897 which again gave an impetus to new enterprises.

1898

With this year, however, the period of improvement was well under way and it was aided by another year of good crops, the total amounting to about 2,600,000,000 bushels. Moreover, failures decreased to 1.10% and iron production again increased to over 11,773,000 tons, although at an average price of $11.66, the lowest known. Over 3199 miles of new railroad were constructed and immigration held its own. Bank clearings showed a tremendous increase, amounting to over $68,826,557,324 and the foreign trade

to over $1,847,000,000. Although the Spanish war temporarily disarranged business, it was so short, that it acted in the end as a great stimulus to trade; therefore, the end of the year found the country prosperous with money rates gradually strengthening to correspond.

1899

This was the beginning of a year of distinct prosperity. The country was again blessed with good crops amounting to over 2,625,000,000 bushels; money rates were very low, failures decreased to the unprecedentedly low figure of.81% and iron production increased to over 13,620,703 tons with a jump in price to $18 a ton. Moreover, 4,512 miles of railroad were constructed and immigration increased to over 311,000. The most phenomenal figures of the year occurred in bank clearings, which shows a figure of over $94,047,400,783 compared with $57,229,070,956 in the two years previous. Foreign trade also increased so that this year was one of marked success in every avenue of commerce and industry. In fact, stocks which had averaged closer to par for the preceding five years increased to a maximum of $151, an increase which was to continue with its ups and downs until 1902.

1900

Although this was election year, always one of more or less inactivity, the dullness of this year was not as severe as usual, owing to the many preceding years of severe liquidation and the present low money rates. Moreover, crops were again full, reaching a total in excess of the preceding year, both in percentage and price. New railroad construction fell off slightly, but immigration increased over 130,000, or to 448,572, and foreign trade to over $2,240,000,000. There was a slight falling off in clearings and money rates increased, but this was nothing more than to be expected in a presidential year. Bryan again ran and he did not talk so much about free silver, but McKinley, with Roosevelt's aid, was elected by a tremendous majority.

1901

Had it not been for poorer crops, this would have been a year of tremendous prosperity. As it was, failures remained at the very low figure of .90%; iron production increased to 15,800,000 tons; new mileage constructed to over 4900 miles; immigration to over 487,000 and bank clearings to the unprecedentedly high figure of $109,267,527,182 with a corresponding increase in foreign trade, while money rates were fairly easy.

In the fall of this year, however, President McKinley was shot. This resulted in considerable gloom among many bankers and merchants, but although the stock market temporarily receded at the time of his death, it quickly reacted. However, as there had been several years of marked prosperity, students of the situation recognized in this event the sign for changed conditions. The Northern Pacific corner which had occurred earlier in the year, was in itself an unfavorable sign and the two events together caused the most cautious investors to change their positions from the bull to the bear side of the market.

1902

If this had also been a year of poor crops, a very severe depression would probably have set in at once, but this year we again had the largest crops on record up to this time, amounting to over 3,193,000,000 bushels. Moreover, the percentage of failures continued very low at .93%; iron production increased to 17,821,000 tons with an increase in price to over $22 a ton. Over 5,000 miles of new railroad were constructed and bank clearings increased to $118,023,298,740. Foreign trade held up nearly to the high figures of the preceding year.

This was one of the years when the average business man and manufacturer were very optimistic; when the daily papers were prophesying still higher prices and still greater activity, and when the surface conditions were apparently more satisfactory than ever before. However, underlying conditions were growing less satisfactory every day for money was becoming dear, and securities in tremendous volumes were being very rapidly issued. This latter fact should be carefully noted as the figures on a large number of the subjects studied under Fundamental Statistics then showed no sign of any approaching period of depression. In fact, this was a year when there was considerable discussion among statisticians as to whether or not the figures collected did signify a decline. Men, however, who recognized the meaning of the tremendous increase in new securities issued, knew that a day of reckoning must come soon, and consequently the signal was given to liquidate. The average of the ten stocks which could have been purchased in 1897 at 103 reached a maximum of 201 and those who sold had the advantage of a splendid profit. However, there were many who did not believe that a period of depression was about to come and therefore did

not sell, but carried their stocks through the depression of the following year.

1903

This year there was a falling off in crops, the total production of corn and wheat amounting to only 2,800,000,000 bushels; the percentage of failures increased to 1.12% and iron production showed but a slight increase with a falling off in the price. Moreover, railroad construction decreased to 4675 miles and bank clearings fell off to $109,209,187,764. Immigration and foreign trade showed an increase and money rates were again high. In justice to those statisticians who found no signs for a depression of 1903, it must be said that these figures were not extremely unsatisfactory and under certain conditions would be considered satisfactory. In fact, had it not been for the very great increase in securities, there probably would have been no depression this year. However, owing to the stock market troubles, labor troubles, and certain other conditions, this year was one of depression, although the depression lasted only one year.

1904

This year there was an increase in crops and the percentage of failures decreased. Although the production of iron decreased, the number of

miles of new railroad increased and immigration almost held its own. Bank clearings also increased to $112,621,022,711 and foreign trade slightly. Money rates again became lower and the banking situation became much sounder.

Moreover, this year the disagreement among statisticians as to underlying conditions was cleared up and all united in recognizing that whatever the figures on underlying conditions had shown during the past two years, there was now a distinct improvement and those who sold stocks at an average price of over $200 in 1902 now repurchased at an average of $152.

1905

Again tremendous crops blessed the country and failures decreased to .85%. Iron production increased to about 23,000,000 tons and the price increased to nearly $18 a ton. Over 5,050 miles of new railroad were constructed and immigration increased to the unprecedentedly high figure of 1,026,499 arrivals. Bank clearings made the greatest jump in the history of the country, increasing from $112,621,012,711 in 1904 to $143,909,448,446 in 1905. Foreign trade likewise increased to over $2,600,000,000. Moreover, low money rates prevailed and industries of all kinds resumed operation.

1906

This year produced the greatest crops in the history of the United States, the total amounting to over 3.620,000,000 bushels while failures decreased to the lowest percentage, namely .77%. Iron production again increased to over 25,000,000 tons and the price to about $21 a ton. 5642 miles of new railroad were constructed and immigration again increased to over 1,100,000 persons. The most wonderful showing, however, occurred in the figure for clearings which amounted to over $159,808,640,000, with a foreign trade figure of nearly $3,000,000,000.

This and the preceding year were of such marked prosperity and the prices of stocks were so very high that many of the large interests began to liquidate and the stocks which were purchased for around par in 1897, sold at over 200 in 1902, and were again purchased for about 150 in 1904, were again sold at prices ranging from 210 to 220 in 1905-1906. Not only was the prosperity too great in 1906 to be normal; but money rates were increasing and political conditions became rather unsatisfactory and President Roosevelt's various messages and lawsuits were the "unforeseen events" which caused the change in conditions. Some students of the situation blamed President Roosevelt for the

change in conditions, but had he not called a halt, very much greater disaster would have come to the country later on. He did call a halt and although indirectly this was a great benefit to the country, its immediate effect was to cause the large bankers and merchants to change their position from the bull to the bear side of the market. Liquidation, therefore, commenced, securities and merchandise were sold and stocks of all classes declined in price. The money situation was especially strained as the depression of 1903 was not severe enough to liquidate many accounts which should have been cleared up. Therefore in March of the following year, the large interests withdrew their support, stocks tumbled in price, banks were allowed to fail and again people were allowed to shift for themselves.

1907

In the spring of this year came reports of unfavorable crops which, in fact eventually amounted to over 3,200,000,000 bushels, but money again was scarce and the scarcity was sufficient to cause the last of the stock operators to change their position from the bull to the bear side of the market. Failures began to increase. There was no appreciable increase in iron production. The number of miles of new railroad constructed fell to 5499 and the bank clearings to $145,175,733,493. Immigration showed an increase and

also the balance of trade. Students of the situation had made up their minds that a change was coming and that nothing could withstand it. As is usually the case, there was no change in surface conditions until the fall, but underlying conditions began to rapidly become more unsatisfactory early in the year and all who were studying the published figures had fair warning of the coming period of depression.

1908

The crops for 1908 likewise were not very satisfactory, amounting to only 3,276,744,000 bushels,—about the same as 1907. Failures, moreover, increased to 1.08; bank clearings were reduced to $132,272,000,000; the iron output was only 15,936,018 tons, with a gradual reduction of price. The volume of trade was $2,849,357,289. New railroad mileage was estimated at 5.730.

The decline in the stock market of the previous year was now being followed by a severe decline in manufacturing and general business. As has universally been true in the past, high money rates were followed by a break in the stock market, which in turn was followed a year later by a business depression, accompanied with low money rates. These rates held low for about another year when the price of stocks began to rise and commodity prices began to fall. The country was at this point on December 31, 1908.

CHAPTER VI.

TWENTY-FIVE SUBJECTS STUDIED UNDER FUNDAMENTAL STATISTICS

WHEN interpreting the meaning of the following twenty-five subjects, one must remember that it is first necessary to decide in which of the four periods the country is: whether it is in a period of depression, a period of improvement, a period of prosperity, or a period of decline. The figures always show this very plainly; but one can readily check his opinion by referring to our Weekly Barometer Letters which always take a decided stand at this point. This first step, however, is absolutely necessary, as it is impossible to determine the duration of the present period, when the next change will come, and what it will be (which of course is what the banker, merchant and investor desires to know) without knowing what the present conditions indicate. This is due to the fact that the same change in the figures of a given subject signify different results under different periods; for example, during a period of depression, an *increase* of Bank Clearings is a favorable sign, but during a period of

prosperity a great increase is a dangerous sign.

After deciding in what period the country is, each set of subjects must be interpreted in accordance with certain rules. In other words, with a given subject a *decrease* signifies one thing, an *increase* signifies another, while *no change* signifies a third. Therefore, the figures on each subject should be examined independently to ascertain whether the figures show a decrease, an increase, or no change. The new figure, what ever it is, will then be interpreted as to whether it shows "more satisfactory conditions," "less satisfactory conditions," or "uncertainty." After reaching this conclusion, relative to what the figures on the subject under consideration signify, a note should be made of the result.

Each subject is treated in this manner and a conclusion reached on each. All of these conclusions are then summarized and one counts how many subjects signify an improvement, how many signify a decline and how many signify something else. All of these are averaged, although a different amount of weight may be given to one subject than to another, and a conclusion reached as to the duration of the present period and what the next change will be.

In short, the study of Fundamental Statistics consists simply of obtaining the latest figures on any one subject, noting their trend and comparing both the figures and the trend with normal figures and normal trends for said subject, in treating all the various subjects in this same way and finally deducing one final conclusion as to whether the figures and the general trend of the figures on all the subjects, taken as an entirety, are becoming more normal or less normal.

If the summary figure for present conditions is much greater than that for normal conditions, this signifies that there may be a change for the worse at any time; but if the summary figure for present conditions is less than that for normal conditions, this signifies that there may be a change for the better at any time. Moreover, the greater the difference between the respective summary figures for present conditions and for normal conditions, the sooner the change may be expected. When the summary figures are approximately the same, the conditions may be expected to remain as they are or to be what is technically known as "irregular."

Wealth, Building and Real Estate Operations as Barometers of the Country's Growth

"Wealth," according to Theodore E. Burton, comprises " all things which are alike useful, limited in supply, and transferable. All wealth is produced from or created by, land, labor, or capital. Land includes every form of nature in earth, seas, or air, together with the natural forces which may be set at work. It is the source of our so-called "raw materials." Labor includes physical strength and exertion, and the mental qualities which furnish them with method and ingenuity.

Capital, technically defined, is wealth withheld from immediate consumption for the purpose of producing wealth in the future. It includes food, clothing and fuel for support of those engaged in production of wealth, necessary seed for planting, raw materials for the finished products of manufactures or, if we look at the subject from the standpoint of the employer or capitalist, money for wages and the purchase of supplies. These may be included in the term circulating capital. There is also fixed capital, which includes tools, machines, factories, buildings occupied or used by those engaged in productive employment, improvements upon land, likewise ships and railways with

all their equipment. Nations are rich or poor not in proportion to the amount of land or natural resources which they have, but in accordance as they have an abundance or lack of capital."

The above describes what is technically known as "wealth." A concrete example of what constitutes wealth may be found in the following tables.

The figures are made up by the Bureau of the Census, Washington, and as reported for the census years are carefully compiled records of actual values as appraised under the general terms, real and personal property. The figures for all years between the census years are estimates, and show proportional changes, based somewhat upon partial returns in some of the items included. The following tables show exactly the forms of wealth comprising the total $107,104,211,917, the estimate of 1904.

ESTIMATED WEALTH OF THE UNITED STATES.

	Latest Estimate 1904	1900
	$107, 104, 211, 917	$88, 517, 306,775
Real property taxed ..	$55,510,247,564	$46,324,839,234
Real property exempt	6,831,244,570	6,212,788,930
Live stock	4,073,791,736	3,306,473,278
Farm implements and machinery	844,989,863	749,775,970

Gold and silver coin and buillion	1,998,603,303	1,677,379,825
Manufacturing machinery, tools, etc.	3,297,754,180	2,541,046,639
Railroads and their equipments	11,244,752,000	9,035,732,000
(a) Street railways, etc.	4,840,546,909	3,495,228,359
(b) All other property .	18,462,281,792	15,174,042,540
Grand total	107,104,211,917	$88,517,306,775

a. **Street railways, etc.** (itemized)		
Street railways	$2,219,966,000	$1,576,197,160
Telegraph systems	227,400,000	211,650,000
Telephone systems	585,840,000	400,324,000
Pullman and private cars ...	123,000,000	98,836,600
Shipping and canals	846,489,804	537,849,478
Privately owned water works	275,000,000	267,752,468
Privately owned electric light and power stations	562,851,105	402,618,653
Total	4,840,546,909	3,495,228,359
b. **All other property** (itemized)		
Agricultural products.....	$1,899,279,652	$1,455,069,323
Manufacturing products	7,409,291,668	6,087,151,108
Imported merchandise	495,543,685	424,970,593
Mining products	408,066,787	326,851,517
Clothing and personal ornaments	2,500,000,000	2,000,000,000
Furniture, carriages, etc	5,750,000,000	4,880,000,000
Total	18,462,281,792	15,174,042,540

NOTE:—C. A. Conant, who was authorized by the Census to estimate outstanding securities in the United States, gave in the Atlantic Monthly for January 1909 a preliminary estimate of $34,514,351,382 or $414.54 per capita, of which $10,120,418,699 is held by holding companies. He figured the outstanding securities in Great Britain as $26,400,000,000 or $616.97 per capita; in France $19,500,000,000 or $500.94 per capita; Germany $10,000,000,000 or $177.41 per capita; and in Holland $2,200,000,000 or $405.08 per capita. For fourteen countries the aggregate is $111,077,764,333 or $196.17 per capita.

Because the census figures are the only statistics which give the actual value of property in the country, and since a complete statement is made only once in ten years, the needs

of fundamental statistics lead to the adoption of certain other reports which may be expected to serve as barometers of the conditions termed wealth by our first proposition.

Building statistics, including railroad and municipal construction, give us figures which show that the value of land is improving more or less, that railroad property is increasing, or that towns and cities are adding lighting plants, water supplies, or public buildings in greater or less amount. Because of a new house costing $10,000 all land on the same street improves and the valuation of the whole city is some thousands of dollars greater at the next census taking. A factory put in the same street might reduce the real estate value as residence property, but would so react upon the city as a whole as to greatly increase its entire wealth.

The difficulty of obtaining accurate reports of building is one that has been an obstacle heretofore in the way of systematic study of the subject. The laws of cities and states are so different, that the returns from building permits alone, are not reliable as a basis. But from the point of view of the contractors, another set of figures is to be had. The best of these have been developed by the F. W. Dodge

Co., of Boston. The business of this firm is to make a thorough canvass of the principal fields of constructive activity in order to furnish accurate information of business openings for contractors and supply firms of all kinds. Reports gathered by this very thorough system of learning of all building in process of construction in New England, have been published from time to time for many years. Through the New York, Chicago and other offices, the firm has in its possession very accurate, well-classified statistics of new construction, both projected and started, in other sections of the country, which they are now putting in shape for the service of fundamental statistics. The reports may be expected to cover the new work, both in private and municipal building and railroad construction, while the values given will be conservative and the result of careful inquiry by trained observers.

Fire losses as reported monthly, include all fires, and show the total destruction of timber, rolling stock of railroads, wharfage and shipping, as well as buildings of all kinds. As in the case of construction or building statistics, the amounts given in these fire loss tables cannot be compared directly with the census

figures on wealth. Sometimes the insurance loss is given, sometimes the assessed valuation, sometimes an estimate, as in buildings and contents under appraisal. The direct loss by forest fires is hard to determine exactly, while the indirect losses, so well-known to the students of forestry, are incalculable at frequent intervals. The monthly record, however, is a valuable indicator of conditions likely to contribute to the improvement or decline of business and should, for that reason, be watched. Conditions of poverty following fires, or general improvement as a result of new construction, are both necessary and valuable barometers of business and show where to increase or decrease investment in land, labor and capital for the increase of wealth.

Another factor of importance, and bearing a relation to the second group of subjects we are considering, is the real estate business. To understand rightly the financial condition of this country, we should know the history of real estate booms and watch for increased rents either of land or buildings. During the hard times of the winter following the crisis of 1907, some of the leading manufacturers reduced their rents fifty per cent, some more and some less.

By such means, they could hope to keep their employees on hand for renewed production. Such action was an attempt to meet the wage-earner half way and is directly opposed to the spirit of that real estate boom, the chief phase of which is an arbitrary raising of rents for tenements of all kinds. Such an advance is usually seen in times of improvement and especially towards the culmination of a period of prosperity when rising wage-scales attract the attention of the house owner, who raises his rents, and reaps his harvest, at the same time that commodity prices and security markets are rising. A study of the statistics will show that real estate values are very good business barometers. New land developed, irrigation systems introduced, and a variety of similar factors may seem to be the causes of booms here and there; but none of these enterprises can be carried on without the active investment of capital and that activity will not continue unless conditions are right.

So, for the purposes of fundamental statistics, beside the official figures on wealth, there should be included these three subjects: new railroad and building construction, real estate values and operations, and fire losses. These subjects give us a gauge of conditions more frequently than once in ten years.

As the business man is much more interested in the relation of wealth to prosperity than in any definitions, it is interesting to note history and ascertain how the wealth of the country has affected conditions in the past. The first great crisis which this country experienced was in 1837; it was preceded by six years of great activity. The railroad mileage of the country had grown from 23 miles in 1830 to 1500 miles in 1837. Simultaneously with this growth in railroad mileage, new towns had been founded, new enterprises opened, desert lands had become taxable, farm property and the wealth of the country had rapidly increased. If the reader will turn to the records of this time, he will find that there was a greater increase between 1832 and 1837 than during any previous ten years of our history. A great number and variety of new enterprises were started, the bank deposits were large and there was great interest in trading, shipping, manufacturing and real estate. In fact, this great increase in real estate speculation resulted in greatly increasing the assessed valuation of both city and country property.

The second great crisis came in 1857, which likewise was preceded by a period of great increase in wealth. After the panic of 1837, came a

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period of great depression and, although conditions improved in 1844 and 1845, there was no great advance until the discovery of gold in 1849. In 1852, California was actually sending millions of dollars worth of gold to New York. Shipping received a tremendous impetus both on account of the trade with California and of the Crimean War in 1854 and 1855. There was also a great increase in railroad mileage, which advanced from only 5600 miles in 1847 to 24,500 miles in 1857. In other words, in 1830 there were but 23 miles of railroad and in 1837, the year of the panic, this had been increased to 1500 miles. During the ten years between 1837 and 1847, less than 3400 miles of new track were constructed, yet in the ten years from 1847 to 1857 about 20,000 miles were constructed. When studying such figures it appears very easy to have prophesied a panic for 1857. With the building of these 20,000 miles, thousands of new towns were settled, millions of acres of hitherto untaxed land became taxable as farm land, and a vast number of manufacturing and other enterprises were started. This resulted in another great increase in wealth equalled only by the increase which preceded the panic of 1837. As a result, the panic of 1857

followed, which resulted in bankruptcies, suicides, and widely distributed destitution.

The third great crisis was in 1873; this was caused by a number of factors and the increase in wealth was certainly one of them. The Civil War was accompanied by a great destruction of property and a consequent reduction in wealth. This was due partly to deterioration of values and the depreciation of the currency; but largely to the fact that the attention of the people had been turned away from productive industry. Plough-shares had been turned into swords with the accompanying decrease in production. When the Civil War was over, both the South and the North again gave their attention to agriculture, manufacturing and commerce, and the result was an unprecedented rebounding. During the early 'sixties, taxable property decreased; during the early 'seventies it rapidly increased. The gain in wealth between 1868 and 1873 was greater than it ever had been in the history of the country.

If later panics (that is, the panics of 1884, 1893 and 1903) are studied, the same law will be found to be true in these cases. We can therefore confidently affirm that a "Period of

Abnormal Increase in Wealth" is sure to be followed by a "Period of Depression."

These illustrations are sufficient to show how deeply the investor's and merchant's interests are concerned in this subject. Whether a small store-keeper, a retailer, a manufacturer or great merchant, his welfare is most intimately related to the total wealth of the country. Many lessons for all classes of people may be drawn from this fact.

The following are certain conclusions relative to "Building Operations."

1. *During a period of Business Depression.*

(a) An increase forecasts better conditions.

(b) A decrease forecasts continued depression.

(c) No change signifies conditions to be stationary.

2. *During a period of Improvement following a period of Business Depression.*

(a) An increase forecasts a period of prosperity.

(b) A decrease forecasts a set-back.

(c) No change suggests caution.

3. *During a period of Prosperity.*

(a) A great increase usually calls for caution.

(b) A decrease may tend to lengthen the period of prosperity.

(c) No change signifies conditions to be stationary.

4. *During a Period of Decline Folowing a Period of Prosperity.*

(a) An increase is indicative of further trouble.

(b) A decrease is natural under these conditions.

(c) No change suggests caution.

Money in Circulation

This subject may, at first thought, seem uninteresting and of little concern to the merchant or manufacturer; yet, as a matter of fact, the "Amount of Money in Circulation" is of vital interest not only to the merchant and manufacturer, but also to the humblest store-keeper and day laborer. The trade of the corner grocery store is regulated by the amount of money in circulation in the neighborhood; and the amount of money in circulation in the neighborhood is dependent upon the amount circulating in the entire country. As the local banks in every small town have deposits in some large city

such as New York, Chicago or St. Louis, money cannot be abundant in one city and scarce in another, except for a very short time. The banks of the various cities are so related through the great banking institutions of the large cities, that money—like water—immediately seeks its own level. As a result, all parts of the country must prosper or suffer in accordance with the amount of money in circulation. The store-keeper must, therefore, study figures of the entire country, and not simply the conditions in his own town or in his own neighborhood.

Many a mill has been closed and many a laborer been thrown out of employment because employers could not obtain enough actual money to pay wages. In times of prosperity such conditions are hard to conceive; nevertheless, they have happened and will recur. Sometimes mills continue to operate by paying their employees by check, although this is a very unsatisfactory method unless the checks can be readily cashed. We know of one city in Massachusetts where for several weeks in 1907, all of the factory hands and clerks were paid in checks, and moreover by checks marked "Payable only through Clearing House." Checks so

marked cannot be cashed. The holders can only deposit them in the bank and draw new checks against them. However, since these new checks were also marked "Payable only through Clearing House," it was still impossible for the employees to obtain their cash. As 95% of the employees had no bank account, the only practical method was for each to give his check to one of the local store-keepers, receiving credit for the amount. As the man was obliged to leave the full amount of the check at one store, he found it advisable to select a large department store, carrying dry goods, groceries, medicines and other goods. The result was that the business of the small store-keepers, excepting that derived from their regular "charge" customers, was almost ruined during this period; the cash business of a store that ordinarily amounted to $100 a day decreased to only $10 a day. This is but one illustration; it shows, nevertheless, how vital an interest even the humblest classes have in the amount of money in circulation.

It is of equal importance to the large merchants and to the manufacturers. The small retailer who buys only what goods he can sell, immediately, ceases purchasing as soon as his business diminishes. This immediately affects

the business of the larger manufacturer, who in turn ceases to purchase from the farmers and producers. Since the small manufacturer buys new material only as needed for actual manufacture, he ceases purchasing in direct proportion to the reduction of his help. The great merchants and manufacturers do not feel the effect, possibly until later; but when the blow does come, they feel it to a greater extent than the small dealer. It may be plainly seen, therefore, that the amount of money in circulation directly affects everyone, whether a laborer, clerk, a small store-keeper, a merchant, a large manufacturer or the railroad company which transports for all.

The Terms Defined.

In the discussion of this subject, two different "amounts" are referred to, viz;

1. The *net amount* of working money in circulation.

2. The *gross amount* of money per capita, whether hoarded or in use.

These two amounts may be defined as follows:

The "*net* amount of working money in circulation" means the amount of actual cash held by the banks. When a farmer deposits in his bank money received from the sale of cotton in Liverpool, he *increases* the net amount of working

money in circulation. This is likewise true when a bank imports gold from abroad. When a depositor becomes frightened, withdraws money from a bank, and hides it in his house or in a safe deposit box, he *decreases* the net amount of working money in circulation. The same is true when Americans spend money in Europe or when money is sent abroad in payment for securities held in Europe. But "the net amount of working money in circulation" is affected in another way, namely; by the amount of money that each man is carrying in his pocket. If a man carries eleven dollars in his pocket instead of one dollar, he seldom realizes that the act is affecting the financial condition of the country; but, as there are 15,000,000 working men in the United States, this would make a difference of $150,000,000 in the net amount of working money in circulation, or a difference of $500,000,000 in the banking resources of the country. Thus the net amount of working money in circulation represents the amount which is actually in the banks or actually at work in commerce and industry; it does not include idle money stowed away in pocket-books or safe deposit boxes.

"The *gross* amount of money per capita" includes all money in the United States whether

it is in the bank or buried in the ground, at work or idle. All money in the safe deposit boxes and in the pockets of individuals is counted in this item. This at the present time amounts to about $35.00 per capita based on the estimated population of the United States. The gross amount of money per capita simply represents the total of the gold and silver coins and bills and bank notes in existence, wherever located in the United States. It has been estimated that in order to keep this figure in the vicinity of $34 or $35 per capita, it is necessary to create or import, about $50,000,000 net in coin and bills each year.

The Effect upon the Merchant.

Experience has shown that the "*net* amount of working money in circulation" cannot be forecast by figures, but is dependent rather upon sentiment. In other words, instead of being dependent upon the financial condition, it is dependent rather upon the sentiment of the people. This net amount in circulation may remain practically constant for years until some large failure, scandal or rumor of war comes, when the people lose confidence and money stops circulating. In such cases everybody holds all he has in his possession and free circulation is stopped or

retarded. Moreover, the net amount of working money is often independent of the gross amount of money per capita in circulation. Should a rumor be published in the morning papers that some great financial institution is in a critical condition, the net amount of money in circulation would immediately be affected to a greater extent than would be possible through years of legislation; but the gross amount of money per capita would remain constant. Furthermore, such rumors, failures or scandals are the best warnings of impending contraction of the net amount of money in circulation. The study of statistics in such instances is of little value. In other words, as soon as such a thing happens, the merchant may be reasonably certain that his trade will be diminished, and the effect of his curtailment will be felt by the wholesalers, the manufacturers and the railroads.

On the other hand, the merchant should be equally on the watch for the time when confidence will be restored and when the people will decide to part with the money they have been hoarding. As it is human nature to hoard money in case of trouble, it is also human nature to forget this trouble quickly. Moreover, people seem unable to withhold money from circula-

tion beyond a certain length of time; they become uneasy under the loss of interest, and it finally occurs to them that their money is in more danger in their houses than when deposited in a bank. Thus periods of financial stringency, which are caused by the temporary withdrawal of money from circulating, are invariably followed by a great increase in the net amount of working money. *Nevertheless, increase in the business of the local merchant does not increase directly in proportion to the increase of the net amount of working money.* While business falls off when the *working* money decreases, the reverse is not true. When mills are closed and people are out of employment, they acquire frugal habits, and after the mills again start, they do not at once begin to spend; but they deposit their savings in a bank. The fact remains, nevertheless, that after these periods of fright, money becomes very plentiful with the banks and interest rates become correspondingly low, with a slow but gradual increase in business. The efficiency of money depends upon its rapidity of calculation and a contraction in the net amount of working money always causes a decrease in general business which requires some time to bring it back to its normal state.

In the case of the "*gross* amount of money per capita," entirely different laws prevail. To quote from Theodore E. Burton's admirable book entitled "Crises and Depressions":—"Paradoxical as it may seem, the starting point for crises and depressions may be found in abundance rather than in scarcity, whether in money or in capital." Here he refers to the "*total gross amount of money per capita*" or the figures which are shown by statistics. These statistics may be obtained from the United States government, which prepares a table each month giving estimates. These figures usually show a continued increase up to a certain point, when a panic or depression comes over the country. *This is probably due to the fact that panics and depressions are so often caused by over prosperity, and that this gross amount of money per capita is a good barometer of prosperity.* Therefore, if the gross amount of money in circulation, as reported by the government, shows a steady increase per capita for several years and the country is prosperous—mills running over time, labor in great demand, and everybody happy and contented—then the merchant and manufacturer should be on the watch for a turn in the tide. In other words, too large an amount

of money per capita is sure to be followed by a period of disaster and trouble. As "Pride cometh before destruction and a haughty spirit before a fall," so it is likewise true that "a large amount of money appeareth before a panic and a period of luxury before a period of depression."

The following conclusions may be of interest relative to "Money in Circulation."

1. *During a Period of Business Depression.*

a. An increase signifies declining money rates, or more satisfactory conditions.

b. A decrease signifies higher money rates, or less satisfactory conditions.

2. *During a Period of Business Improvement.*

a. An increase forecasts better conditions.

b. A decrease forecasts a check or setback.

c. No change suggests caution.

3. *During a Period of Prosperity.*

a. A large increase calls for caution.

b. A sudden decrease signifies higher money rates and calls for caution.

c. No change signifies continued prosperity.

4. *During a Period of Decline following a Period of Prosperity*

a. An increase forecasts more unsatisfactory conditions.

b. A decrease forecasts higher money rates or less satisfactory conditions.

c. No change suggests caution.

Reports of the Comptroller of the Currency

Each national bank is required to make five reports a year to the Comptroller of the Currency. The reports are verified under oath by the president and cashier, are attested by at least three directors of the bank, and give in detail, the resources and liabilities on any day specified by the Comptroller. When the Comptroller calls for a report, it is always for a report of the condition of the bank on a date preceding the call. The report must be mailed to the Comptroller within five days after the request is made for it. Such reports are the basis of the most useful examinations of the banking situation, as they include figures from all national banks and are annually supplemented with figures relative to other banks.

In addition to studying these figures independently, they should be studied in their relation one to the other. In other words, the "ratios" should be studied and compared. This is one of the principal features of these reports as used

in connection with the study of "Fundamental Statistics." They will be found more fully explained under the headings of "Loans" and "Cash."

Loans of the Banks

In analyzing reports of the Comptroller of the Currency, four distinct lines of investigation are followed, namely:

(a) The ratio of bank "Loans" to bank "Resources."

(b) The ratio of bank "Loans and Investments" to bank "Resources."

(c) The ratio of "Cash" in the banks to the "Deposits."

(d) The ratio of the "Cash" in the banks to the "Resources."

These are four distinct subjects to be studied independently before making any deduction or forecasting business conditions. Yet there is a close relation between (a) and (b) and also between (c) and (d). Therefore, in order to save both time and space, the first two are here treated together, and the second two are treated together under another heading.

Bank Loans: Bank loans include notes, discounts, overdrafts and all other forms of so-called liquid assets. Banks when first organized

were expected to serve two purposes: they were to receive money on deposit and to loan it to depositors, with the understanding that all deposits and loans could be withdrawn or called for payment at any time. The most ideal conditions for banks today are to be found where business is kept most closely to the standard thus early laid down. All of the assets of a bank, other than cash on hand, etc., should consist of loans that can be liquidated within six months. Therefore, the term "Loans and Discounts" would include all notes, etc., which are either payable on demand or are payable within six months or a year at the utmost.

Investments: In reality, a bank is loaning money to a corporation whether it purchases its fifty-year Debenture Bonds or its six months notes. In either case the security is the same and the interest may be the same. For an investor, the fifty-year bonds, if properly secured, are in most instances a more practical purchase than the note, but for a bank the same statement cannot be made. Strict adherence to the original principle of banking often demands that a bank shall refuse to purchase the bonds of a corporation of which it may willingly accept the notes.

Notes when purchased by banks may be listed under the head of "Loans and Discounts," but bonds so purchased must be listed under the head of "Investments." The national law forbids national banks to purchase improved real estate, or real estate mortgages, except as a building site, because real estate cannot be readily sold, even although in many cases, it is the safest form of investment. Logically there seems to be no reason why a national bank should be allowed to buy fifty-year bonds and forbidden to purchase improved real estate, but the fact that the prohibition is made shows that the spirit of the law is against all forms of permanent investments. Therefore, all stocks, bonds and notes, which do not mature for six months or more, come technically under the head of "Investments." As there is no law which states exactly the difference between "Loans" and "Investments," banks differ regarding the definition and many banks place under the head of loans, short time notes which do not mature for two or three years,—although technically such short-term notes should come under the head of "Investments."

Resources: The "Resources" of a bank are the same as the resources of any individual or nation. They include the notes, discounts, loans,

stocks, bonds, real estate and other property which the bank holds. When a bank makes a total appraisal of its assets, figured on a conservative basis, the resulting figure represents the "Resources." The greater the proportion of "Loans" to "Resources," the less normal are banking conditions.

We think that the above definitions in themselves are sufficient to convince the reader of the truth of the following statement:

(1) *The banking situation of the country becomes more critical as the proportion of loans to resources increases, and is improving as the proportion of loans to resources decreases.*

If all national banks confined themselves to loans and discounts, and made no permanent investments, excepting to the extent of their capital, it would be a very easy matter to judge the conditions in accordance with the above rule. As, however, practically all banks are placing more and more funds into permanent investments, that item must be independently analyzed and the above rule must be supplemented by the following:

(2) *With a given fixed ratio of loans to resources, conditions become more critical as the proportion of investments to resources increases*

and conditions improve as the proportion of investments to resources decreases.

In other words, provided a constant relation exists between the funds loaned and the total resources, the general banking situation is strengthened whenever a bank disposes of long term bonds and reinvests the money in high grade commercial paper and the general banking situation is weakened whenever a bank purchases long term bonds with money received from deposits or from the payment of high grade commercial paper. Therefore, anyone studying these conditions, should note two things:

(1) Whether the proportion of "Loans" to "Resources" is increasing, decreasing, or remaining fixed.

(2) Whether the proportion of "Investments" to "Resources" is increasing, decreasing, or remaining fixed.

Although the most careful students consider these terms separately, we think it is generally safe to combine the two ideas in the one general rule, as follows:

As the ratio of "Loans and Investments" to "Aggregate Resources" increases, the banking situation becomes more critical; and as the ratio of the two combined items to "Aggregate Resources" decreases, the banking situation improves.

The accompanying tables show the record of the national banks, state and private banks and trust companies of the United States reporting to the Comptroller between 1865 and 1909.

A study of the accompanying tables in connection with the other subjects, makes it possible to forecast every period of depression and every period of prosperity which this country has experienced since the Civil War. These figures cannot be expected to foretell the exact time when crises or panics will occur, owing to sudden catastrophes such as earthquakes, wars, assassinations, etc., but they invariably forecast the large swings. They clearly show when conditions are becoming abnormal and the pendulum is swinging too far from the perpendicular. These figures date back only to the Civil War, as the system of national banks was not established until 1863. Consequently this is the only period which gives satisfactory data to form a basis for any theory regarding the relation of banking conditions to general business, and conversely, the effect of business conditions upon banking conditions. The latter clause is added, for although a strained condition of the bank causes a recession in the general business, it

Date	Banks	Loans and Investments	Ratio of Loans and Investments to Reserves
1865	1,	700,000	05 00
1866	2,	1,015,000,000	05 70
1867	2,	1,071,000,000	00 40
1868	2,	1,000,200,000	00 73
1869	2,	1,000,000,000	70 32
1870	2,	1,125,400,000	74 40
1871	2,	1,200,300,000	00 88
1872	3,	1,302,700,000	73 57
1873	1,	1,153,100,000	78 80
1874	1,	2,257,000,000	70 15
1875	3,	2,311,000,000	70 20
1876	3,	2,251,400,000	70 00
1877	3,	2,502,100,000	70 00
1878	3,	2,411,100,000	78 47
1879	3,	2,500,100,000	70 04
1880	3,	2,502,500,000	73 30
1881	3,	3,002,800,000	75 00
1882	3,	3,000,400,000	70 88
1883	3,	3,058,800,000	73 31
1884	4,	3,201,100,000	77 00
1885	4,	3,223,300,000	72 83
1886	4,	3,457,800,000	77 17
1887	6,	3,611,800,000	75 80
1888	6,	4,272,200,000	78 11
1889	7,	4,582,100,000	77 21
1890	7,	5,000,100,000	78 83
1891	8,	5,000,000,000	70 42
1892	9,	5,000,000,000	77 37
1893	9,	5,252,700,000	70 50
1894	9,	5,530,300,000	75 85
1895	9,	5,511,000,000	76 00
1896	9,	5,502,300,000	78 44
1897	9,	5,614,800,000	76 01
1898	9,	6,211,000,000	75 04
1899	9,	7,350,000,000	74 20
1900	10,	8,055,200,000	74 00
1901	11,	9,540,400,000	74 82
1902	12,	10,228,100,000	76 54
1903	13,	11,130,000,000	77 87
1904	14,	11,630,200,000	76 36
1905	16,	13,010,100,000	76 10

Date	Population	Revenue
1805	1,000	1,125,500,000
1806	2,507	1,170,100,000
1807	3,270	1,170,100,000
1808	3,293	1,525,200,000
1809	3,314	1,501,300,000
1810	3,452	1,510,200,000
1811	3,000	1,770,000,000
1812	1,988	1,770,800,000
1813	1,988	3,111,200,000
1814	3,332	3,204,600,000
1815	3,448	3,183,100,000
1816	3,727	3,204,100,000
1817	3,784	3,204,100,000
1818	3,520	3,080,000,000
1819	3,335	3,212,000,000
1820	3,355	3,300,000,000
1821	3,427	3,800,100,000
1822	3,527	4,021,100,000
1823	3,835	4,250,000,000
1824	4,111	4,211,200,000
1825	4,329	4,211,200,000
1826	4,379	5,201,700,000
1827	6,017	5,170,100,000
1828	6,017	5,040,000,000
1829	7,203	6,243,000,000
1830	7,000	6,202,100,000
1831	8,641	7,345,200,000
1832	9,338	7,102,300,000
1833	9,048	7,500,000,000
1834	9,668	7,102,300,000
1835	9,432	7,233,000,000
1836	9,732	7,170,000,000
1837	9,452	7,170,000,000
1838	9,432	7,233,000,000
1839	9,732	7,170,000,000
1840	9,452	7,170,000,000
1841	9,432	7,233,000,000
1842	9,732	7,170,000,000
1843	9,452	7,170,000,000
1844	9,432	7,233,000,000
1845	9,732	7,170,000,000
1846	9,452	7,170,000,000
1847	9,432	7,233,000,000
1848	9,732	7,170,000,000
1849	9,452	7,170,000,000
1850	9,432	7,233,000,000
1851	9,732	7,170,000,000
1852	9,452	7,170,000,000
1853	9,432	7,233,000,000
1854	9,732	7,170,000,000
1855	9,452	7,170,000,000
1856	9,432	7,233,000,000
1857	9,732	7,170,000,000
1858	9,452	7,170,000,000
1859	9,432	7,233,000,000
1860	9,732	7,170,000,000
1861	9,452	7,170,000,000
1862	9,432	7,233,000,000
1863	9,732	7,170,000,000
1864	9,452	7,170,000,000
1865	9,432	7,233,000,000
1866	9,732	7,170,000,000
1867	9,452	7,170,000,000
1868	9,432	7,233,000,000
1869	9,732	7,170,000,000
1870	9,452	7,170,000,000
1871	9,432	7,233,000,000
1872	9,732	7,170,000,000
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1881	9,732	7,170,000,000
1882	9,452	7,170,000,000
1883	9,432	7,233,000,000
1884	9,732	7,170,000,000
1885	9,452	7,170,000,000
1886	9,432	7,233,000,000
1887	9,732	7,170,000,000
1888	9,452	7,170,000,000
1889	9,432	7,233,000,000
1890	9,732	7,170,000,000
1891	9,452	7,170,000,000
1892	9,432	7,233,000,000
1893	9,732	7,170,000,000
1894	9,452	7,170,000,000
1895	9,432	7,233,000,000
1896	9,732	7,170,000,000
1897	9,452	7,170,000,000
1898	9,432	7,233,000,000
1899	9,732	7,170,000,000
1900	9,452	7,170,000,000
1901	9,432	7,233,000,000
1902	9,732	7,170,000,000
1903	9,452	7,170,000,000
1904	9,432	7,233,000,000
1905	9,732	7,170,000,000
1906	9,452	7,170,000,000

has always been great activity in business that has caused critical banking conditions.

Therefore, when business has been very active and the country very prosperous, bankers may surely anticipate strained and critical banking conditions. Conversely, when strained banking conditions have existed for a certain period, business men may be sure of a reaction. The figures show that after a period during which there was a more or less noticeably rapid increase in the ratio of "Loans and Investments" to "Resources," there followed invariably a period of depression until the ratio was reduced to a normal point. From 1887 to 1897 the "Loans and Discounts" increased only 43% and the "Investments" 73% against an increase in aggregate resources of 50%. This was a normal and healthy increase and all observers were sure that the country was preparing for a period of marked prosperity, but between 1897 and 1907 the "Loans and Discounts" increased 236% and the "Investments" 307% against the increase in "Resources" of 248%. It was due to these figures that the bankers and investors who carefully study all Fundamental Statistics were sure that the country had entered a period of decline. Such figures showed a period of depression to be absolutely necessary in order to give the banks

an opportunity to recuperate and again enjoy healthy and normal conditions. These figures are still more dangerous when it is considered that during the period between 1887 and 1897 the aggregate "Resources" showed an increase of 50%, even although the market value of securities was continually decreasing. During the ten years between 1897 and 1907 this increase in aggregate "Resources" was largely due to the inflated prices and the growing market value of securities held and possibly not at all to larger numbers of investments. These changes, it is true, have been irregular rather than constant and have caused varying conditions of strength and weakness in the banking situation, but the figures plainly indicate that in 1906 banks were in a very weak condition with their investments over-extended. The above figures would appear somewhat different if figures of all private banking houses, such as J. P. Morgan & Co., Kuhn, Loeb & Co., and others were included, but nevertheless they are sufficient.

Referring to earlier years, we see that in 1873 the ratio of "Loans" to "Resources" first exceeded 50% and in fact reached a ratio of 52.72%. Consequently a panic occurred in that year, although the ratio of "Loans" to "Resources" continued to increase to 54.13% and 54.55% in

1874 and 1875 respectively, and the prolonged depression was probably due to this continued increase. Moreover, this item remained practically unchanged until 1879 when the liquidation was completed. "Loans and Discounts" which in 1873 were $1,439,900,000 after reaching $1,748,100,000 in 1875, were reduced in 1879 to $1,507,400,000. This condition of the banks enabled them to loan money at low rates of interest and again accommodate legitimate enterprises. Consequently, business increased marvellously from 1879 to 1883.

During this period, however, loans had again rapidly advanced,—as is shown by the table,—and remained practically fixed between 1883 and 1885. During this period, that is in 1884, a sharp panic occurred which might readily have been anticipated. Although short in comparison with the crisis of 1873, distress was felt in every part of the United States. However, the banks were able to reduce quickly their ratio of "Loans and Investments" to "Resources" so that the ratio which stood at 77.96 in 1884 was reduced to 72.83 in 1885. Consequently, business became again more active, mills resumed operation and railroad earnings began to increase.

In 1886 the new period of prosperity, with advancing prices, was in full swing. This move-

ment continued without any marked change until the early 'nineties when "Loans" reached a very high proportion, 60.57%. Large crops in this country, with small crops abroad, helped to postpone trouble for a time, but a depression came in 1893 when the ratio of "Loans" to "Resources was even higher than in 1890, namely 60.74%. All business men and investors who were studying these figures were absolutely sure that a panic would ensue.

Another disturbance came in 1903 which, although short, was certainly severe. Railroad earnings decreased, mills shut down, many men were thrown out of employment and money rates were very high. Again the western farmer came to the rescue of the country and, owing to bountiful crops and strong underlying conditions, mills again started and business improved. This continued until 1907. During these years, however, there was no real improvement in the banking situation except for a short time. In 1904 money was very cheap, but only temporarily. The banking conditions became worse and worse so that students of the situation were sure that the improvement in 1904 to 1907 would be followed by a depression, but during which time the banks might again have an opportunity to recuperate.

The great value of this data to the investor is self-evident. When the ratio of "Loans and Investments" to "Resources" is abnormally high, the country is abounding in prosperity and securities are selling at high prices, the wise investor sells his securities and places his money on deposit in strong banks. On the other hand, when the ratio of "Loans and Investments" to "Resources" is low, and when, although business is dull and mills are not running, his general knowledge of the situation shows that conditions are sound and healthy, the investor will withdraw his money from the banks, purchase high grade stocks and bonds and hold them until business again becomes active.

Moreover, while in the tables we have given, aggregate figures for all banks, compiled in order to show general banking conditions, they are of service in comparing the condition of two or more banks. Every depositor should select a bank whose ratio of "Loans" to "Resources" is comparatively small and should especially avoid banks with large "Investment" accounts,—so large as to show a policy not in agreement with sound management.

In the weekly New York Bank Statement, the meaning of "Loans" is self-evident. A very small figure for "Loans" is not a good sign,

neither is a very large figure. The former signifies stagnation, the latter, over-extension. It is important that the figure be normal, and that it bear a proper relation to the figure for "Deposits,"—thus giving a sound, safe amount for "Surplus Reserve."

The following conclusions regarding the ratio of *"Loans"* to *"Aggregate Resources"* are suggested. The same principles apply to the ratio of *"Loans and Investments"* to *Aggregate Resources."*

1. *During a Period of Business Depression.*

(a) An increase in the ratio signifies renewed activity.

(b) A decrease signifies a further recession in business.

(c) No change signifies continued dullness.

2. *During a Period of Improvement following a Period of Business Depression*

(a) An increase in the ratio signifies increased activity.

(b) A decrease signifies a temporary recession.

(c) No change calls for special watchfulness.

3. *During a Period of Prosperity.*

(a) An increase in the ratio signifies underlying troubles and forecasts a change in conditions.

(b) A decrease tends to prolong the period of prosperity.

(c) No change also tends to prolong this period.

4. *During a Period of Decline following a Period of Prosperity*

(a) An increase in the ratio signifies further trouble.

(b) A decrease tends to delay bad conditions.

(c) No change calls for special watchfulness.

Cash in the Banks

This subject may be considered in two ways:

(c) Ratio of the "Cash" in the banks to the "Deposits."

(d) Ratio of the "Cash" in the banks to the "Resources."

In reality these are two entirely different subjects, as the "Deposits" of a bank are liabilities while its "Resources" are assets. Therefore, in the one case we consider the ratio of "Cash" to liabilities; in the other, the relation of "Cash" to the assets. It is therefore absolutely necessary for the student of "Fundamental Statistics" to examine thoroughly the condition of the banks in relation to both points. It has happened during the past forty years that the ratio

of "Cash" to "Resources" has varied almost constantly with the ratio of "Cash" to "Deposits," but before considering the two subjects together, one should first note if their progress is still along parallel lines.

Having already explained the relation that "Loans and Investments" bear to the money situation, let us study the effect that "Cash" has on the money situation. Of course it is usually true that the greater the amount of "Loans and Investments," the smaller the amount of "Cash," and vice versa. For this reason the following rules are already self-evident.

1. *The banking situation grows more critical as the ratio of cash to deposits decreases, and the situation improves as the ratio of cash to deposits increases.*

National banks are compelled by law to maintain an actual reserve equal to twenty-five per cent of their deposits and any amount over this reserve is called the "Surplus Reserve." As this "surplus reserve" declines, money rates increase, merchants and manufacturers are limited in borrowing, and speculators are compelled to dispose of stocks and bonds in order to pay their loans. On the contrary, as the "surplus reserve" decreases, the banks are in a much better condition and are ready to loan money to

investors, manufacturers and merchants at lower rates of interest. All of this, however, is explained in detail in an article on the New York Bank Statements a few pages hence.

Periods of depression and periods of prosperity in the past always could have been anticipated by including in every survey of passing conditions, a study of the ratio of "Cash" to "Deposits." Whenever there has been a decline in the ratio of cash to deposits or aggregate resources, there has always followed a period of contraction of credits; and conversely as this ratio increased, lower interest rates have always followed. The following table shows the ratio of cash to the deposits of the National, State, Savings and other banks and trust companies from 1865 to and including June 30, 1908.

THE RATIO OF CASH TO NET DEPOSITS IN NATIONAL BANKS.

Year	No. of banks Reporting	Individual Deposits.	Total cash in Banks.	Ratio of cash to Individual deposits
1865	1,960	$641,000,000	$199,400,000	31.11
1866	2,267	815,800,000	231,900,000	28.30
1867	2,279	876,600,000	205,600,000	23.45
1868	2,293	968,600,000	200,700,000	20.72
1869	2,354	1,032,000,000	162,500,000	15.74
1870	2,457	1,051,300,000	187,700,000	17.85

1871	2,796	1,251,600,000	194,000,000	15.5
1872	3,066	1,353,800,000	177,600,000	13.12
1873	1,968	1,421,200,000	218,200,000	15.35
1874	1,983	1,526,500,000	252,200,000	16.52
1875	3,336	1,787,000,000	238,700,000	13.36
1876	3,448	1,778,600,000	226,400,000	12.73
1877	3,384	1,813,600,000	230,500,000	12.71
1878	3,229	1,717,400,000	214,600,000	12.50
1879	3,335	1,694,200,000	216,300,000	12.77
1880	3,355	1,951,600,000	285,500,000	14.63
1881	3,427	2,296,800,000	295,000,000	12.84
1882	3,572	2,460,100,000	287,100,000	11.65
1883	3,835	2,568,400,000	321,000,000	12.50
1884	4,111	2,566,400,000	321,200,000	12.51
1885	4,350	2,734,300,000	414,300,000	15.15
1886	4,378	2,812,000,000	375,500,000	13.00
1887	6,179	3,308,200,000	432,800,000	13.09
1888	6,647	3,422,700,000	446,100,000	13.03
1889	7,203	3,778,100,000	499,100,000	13.21
1890	7,999	4,062,500,000	478,300,000	11.77
1891	8,641	4,796,800,000	479,100,000	11.41
1892	9,338	4,664,900,000	568,400,000	12.58
1893	9,492	4,627,300,000	515,900,000	11.15
1894	9,508	4,651,200,000	688,900,000	14.81
1895	9,818	4,921,300,000	631,100,000	12.82
1896	9,469	4,945,100,000	531,800,000	10.84
1897	9,457	5,094,700,000	628,200,000	12.33
1898	9,485	5,688,200,000	687,800,000	12.09
1899	9,732	6,768,700,000	723,300,000	10.69
1900	10,382	7,238,900,000	749,900,000	10.36
1901	11,406	8,460,600,000	807,500,000	9.54
1902	12,424	9,104,700,000	848,100,000	9.31
1903	13,684	9,553,600,000	857,200,000	8.97

1904	14,850	10,000,500,000	990,600,000	9.90
1905	16,410	11,350,700,000	994,100,000	8.76
1906	17,905	12,215,800,000	1,016,400,000	8.32
1907	19,746	13,099,600,000	1,113,700,000	8.51
1908	21,346	12,584,511,169	1,368,300,000	10.70

It is very interesting to note that the ratio of "Cash" to "Deposits" decreased in 1891 to practically the lowest figure known up to that time and in 1893 to a still smaller figure, making the panic of 1893. As in the case of all panics, this resulted in the calling of loans and the immediate strengthening by the banks of their cash resources, so that in 1894 this ratio had increased more than 32%. In the following year the ratio again dropped 13%. From 1897 it continued to fall until the next very low point reported for the year ending June 30, 1903. At that time, experts in these matters publicly prophesied a panic followed by a period of depression and, true enough, the following year it came,—the panic of 1903. "Resources" in 1904 were strengthened somewhat, but the improvement was not enough to restore the banks to a healthy and normal condition. In fact, the ratio was very low from 1904 to 1907, so that, instead of the customary number of years of prosperity before another depression, the country saw a change for the worse in 1907. If the depression of 1903 had lasted long enough to

enable the banks sufficiently to increase their cash resources, improvement would probably have gone on until 1912 or 1913; but as the banks did not have time to recuperate, another depression within a few years was inevitable. The figures in this table are for the entire country, and a study of them is very suggestive. As they in general are similar to those outlined in the paragraphs on "Loans," they need not be described further here. When studying the ratio of "Cash" to "Deposits," one must not only note this ratio, but must also keep in mind the *aggregate of cash* and the *aggregate of deposits*

The following conclusions relative to the ratio of "Cash" to "Deposits" are suggested:

(These general principles also apply to the ratio of "Cash" to "Aggregate Resources.")

1. *During a Period of Business Depression.*

(a) After money has been cheap for some time, accompanied by large cash figures, a continued increase in the ratio of "Cash" to "Deposits" signifies that business remains at a standstill.

(b) A decrease—under the above conditions—may be a good sign, showing that business is reviving.

(c) No change signifies that conditions are stationary.

2. *During a Period of Improvement following a Period of Business Depression.*

(a) After money rates have been very low for sometime, a further increase in the ratio of "Cash" to "Deposits" often means that there has been a recession in business.

(b) A decrease under such conditions usually signifies renewed activity.

(c) No change signifies a period of hesitation.

3. *During a Period of Prosperity.*

(a) An increase in the ratio of "Cash" to "Deposits" tends to prolong the period of prosperity.

(b) A decrease tends to shorten the period of prosperity.

(c) No change signifies a period of hesitation.

4. *During a Period of Decline following a Period of Prosperity.*

(a) An increase in the ratio of "Cash" tends to delay the depression.

(b) A decrease hastens the period of tight money and unsatisfactory conditions.

(c) No change signifies nothing of importance.

Deposits of the Banks

The rule governing the ratio of "Cash" to "Deposits" holds good, except when deposits are

increasing too rapidly, owing to increased prices of securities, real estate and commodities. Beside studying the ratio as we have described, the deposits should be watched especially for increases. The weekly statement of the New York banks will serve this purpose, although the fact that the reserve exceeds the deposits is not sufficient for safety. Deposits should not increase too rapidly.

A very simple illustration shows how large deposits may be reported at considerable risk, but without any intentional mis-statements of facts.

A few years ago a miser died in a certain town which may be called Graniteville. The executor of his estate found $5,000 in gold stored away in the house, and deposited it with the Graniteville Trust Company, thereby increasing the deposits of that company by $5,000. Shortly after, John Smith borrows $4,500 of the amount in order to buy stone with which to build a block of buildings. The local granite company, having outside income sufficient to pay its expenses, deposited the entire $4,500 received from Smith with the Graniteville Trust Company, so the deposits of the trust company became $9,500. Soon after Mr. Jones came into the bank and borrowed $4,200 with which to buy stone to build a block in another part of the town, and

upon receipt of Jones' $4,200, the granite company made another deposit with the trust company increasing the deposits to $13,700.

The following day a Mr. Brown, by means of a loan from the bank bought stone, and the granite company increased its deposits to $17,500. This same method of procedure was followed further until the $5,000 in gold which was originally deposited resulted in increasing the deposits of the trust company by $50,000 and the loans by $45,000. Moreover, this $5,000 enabled the granite company to suppose it had $45,000 in cash on deposit in the bank and also provided for the building of several stone blocks in the city. In other words, the deposit of this $5,000 in gold resulted in creating an apparent wealth in Graniteville of over $100,000. This story also shows the great importance of importing gold and of giving the banks the use of as much actual currency as possible.

When the miser's estate was settled, this $5,000 was turned over to his only daughter, who had the same hoarding disposition as her father. She immediately withdrew the $5,000 from the Graniteville Trust Company and placed the same in a safe-deposit box with the following result.

The Graniteville Trust Company, in order to show its proper Surplus Reserve was obliged to

demand payment of all the loans made to Smith, Jones, Brown, and the other men. In order to pay these loans, all of these men were obliged to sell the buildings which they had erected and, in order to protect the price of granite, the granite company was obliged to purchase these buildings, which necessitated the withdrawal of their deposits from the trust company. Thus the withdrawal of this $5,000 in gold resulted in decreasing the deposits of said trust company $50,000, in causing the $45,000 of cash assets of the granite company to vanish, and in causing the half dozen or more citizens to lose their property, and possibly enter bankruptcy.

The principle should be clearly kept in mind when studying the "Deposit" item of the New York Bank Statement. Large "Deposits" are not necessarily a healthy sign. Neither very large or very small "Deposits" are normal. The best bank statement is the one where the figures for "Deposits" are normal, and bear a proper relation to "Loans," thus showing a proper "Surplus Reserve."

The exact meaning of these various terms as used in the above-mentioned Bank Statement (which is issued every Saturday at eleven in the morning, showing the condition at the close of business on Friday) is as follows, according

to a valuable pamphlet published by Sig. Rosenblatt & Co:

"*Loans and Discounts*:

Comprising loans, discounts, stocks, bonds and mortgages owned by the bank.

Specie:

Comprising gold and silver coin, United States and Clearing House certificates, and United States silver certificates.

Legal Tender Notes:

Comprising United States legal tender notes of all issues.

Circulation:

The amount outstanding.

Deposits:

Gross deposits and unpaid dividends less exchanges for the clearing house, amounts due from other banks for collection, notes of other banks and checks on non-clearing institutions in the city of New York.

The item of loans and discounts, it will be noticed, represents, aside from notes, drafts or any instrument upon which funds have been loaned out by the bank, also United States bonds held by the national bank as security for circulation and for deposits of public money, and the stocks, bonds, mortgages, and syndicate investments of both state and national banks. Therefore, changes in circulation may very often appear

also as a change in loans, since purchases by the banks of bonds always increase the loans, and sales of bonds decrease the loan account, if the proceeds are not loaned out.

It must be kept clearly in mind that all items of the weekly statement are made up by *averages*. There are two ways to make up these averages, but neither one gives a clear picture of the condition of the bank: one way is to add the figures at the close of each day's business and divide the total by the number of business days in the week. Another way is to multiply each of the first day's items by the number of business days in the week, and each subsequent day's items by one less, and then add them and divide the total by 21 for a six-day week and by 15 for a five-day week. As both of these ways are more or less inaccurate, the changes shown by the bank statement seldom agree with the changes indicated by the reported movement of money.

The *surplus* against all deposits is computed by subtracting one-quarter of the net deposits from the cash held. This has to be done, as the banks are required by law to keep a reserve of 25% against their deposits. This is true so far as it concerns the total surplus. The surplus against deposits other than the United States

deposits is computed by deducting from a quarter of the total deposits 25% of the UnitedStates deposits and subtracting the remainder from the cash held.

As an example, take the New York Clearing House Statement for the week ending Friday, February 15, 1908, 48 banks reporting:

Total capital of all institutions....	$ 124,350,000
Net profits of all institutions.....	159,561,100
Loans average	1,135,248,200
Specie average	253,424,200
Legal tender average.....	60,503,300
*Deposits average	1,132,309,100
Circulation average	66,723,500
*United States deposits included	$59,495,300
In order to find out the surplus reserve against all deposits, compute on the net deposits amounting to	$1,132,309,100
25%, equal to.....	283,077,275
The actual reserve, consisting of legal tenders and specie as above amounts to	$313,927,500
Less the reserve required.....	283,077,275
Leaving a surplus of.....	30,850,225
To find the surplus against deposits other than United States	

deposits, take the total deposits

of	$1,132,309,100
Deduct U. S. deposits of	59,495,300
Leaving net deposits of	1,072,813,800
25% reserve required	268,203,450
Reserve held	313,927,500
Surplus	$ 45,724,050

Percentage of reserve held by banks was 27.72% (25% required, and surplus above that amounting to $45,724,050).

The above shows how the bank statement appeared formerly. The question immediately arises whether the statement issued by the banks comprising the clearing house, together with the non-members statement, would give an actual picture of the banking power of New York City. The answer is *no*, inasmuch as the trust companies are not included in the statement. However, it is now possible to acquire a comprehensive knowledge of banking conditions in Greater New York because of the publication of the actual as well as the average condition of the Clearing House banks, and the compilation under direction of the State Superintendent of Banks of the average institutions under his control, not reporting to the Clearing House. These statements are:

1st. Clearing House members *average* statement.

2nd. Clearing House members *actual* statement.

3rd. Average of other banks and trust companies not in the Clearing House.

4th. Aggregate average.

In order to make the compilation still clearer, the Superintendent issues a separate summary of weekly statements of all state banks and trust companies.

It must be borne in mind that the percentage of reserve of Clearing House banks represents actual cash in bank, while only 5% of cash is required of trust companies, the remainder being either certain bonds, or deposits in other institutions.

In spite of there still being some weak points in the compilation of the statement, as, for instance, that the averages are not figured in the same way by all institutions, and also that in the item "Loans and Discounts" there are included investments, such as stocks, bonds and mortgages which, in fact, should not be included in the loan item, we may be very well satisfied with the statement as now issued. It is highly to be appreciated that our banks and trust companies have so readily acceeded to the demands of the public."

The following conclusions relative to Bank Deposits are suggested:

1. *During a Period of Business Depression.*

(a) An increase signifies that business is improving.

(b) A decrease signifies that business is not improving.

(c) No change signifies continued dullness.

2. *During a Period of Improvement Following a Period of Business Depression*

(a) An increase signifies renewed activity.

(b) A decrease signifies a temporary recession.

(c) No change signifies "uncertainty."

3. *During a Period of Prosperity.*

(a) A large increase signifies that underlying conditions are becoming unsound.

(b) A decrease calls for caution.

(c) No change signifies no change in the situation.

4. *During a Period of Decline following a Period of Prosperity*

(a) An increase tends to prolong the period of prosperity.

(b) A decrease tends to hasten the coming period of depression.

(c) No change calls for special watchfulness.

Surplus Reserves of the Banks

The figure for "Surplus Reserve" as given in the New York Bank Statement always indicates:

(a) The Price of Money.
(b) The Supply of Money.

The price is determined by the relation of the supply and the demand; that is, when more persons wish to borrow than to loan, the interest-rates advance; and when a larger number wish to loan than to borrow, the supply is greater than the demand and the interest-rates decline. For this reason money-rates are usually high during the periods of business activity and low during periods of depression. The *price* of money, however, is not as important a factor as the *supply*. In other words, provided the merchant can obtain the money when needed and in sufficient quantities, an abnormal interest-rate is less harmful in its effects than the inability to get money at all.

A variation in the rates for borrowed money has a more direct effect upon the market for stocks and bonds than upon the market for merchandise. When the speculator can borrow money at three or four per cent. to purchase securities paying five or six per cent., the temptation is to borrow and make the purchases, thus increasing the demand and consequently the market price for the securities. Under such circumstances, there is a profit on the "interest account," even although there is no increase in

the value of the investments. On the other hand, this increased incentive to purchase does not exist when money commands six or seven per cent. and securities are selling on a four or five per cent. basis, for then the "interest account" shows a loss. Those who have securities upon which they are borrowing money are tempted to sell them in order to stop the loss in interest. Consequently, the supply of securities exceeds the demand and the price declines. As already stated above, this question of "interest rates" is entirely secondary to the question of "supply." It is not interest rates that cause the merchant to fail or the speculator to sacrifice his stocks, but rather the inability of either to renew loans on any terms whatever. Many great periods of declining prices have been solely due to this cause, namely, a lack of supply of money, and the speculator is not the only one to feel the effect of such times.

The New York Bank Statement, used in connection with the Comptroller's Reports and Foreign Money Rates, forms the best barometer of the *supply* of money. As to the current *price* of money, this may be definitely determined each day, by referring to the money articles on the financial pages of any daily paper. The figures under what is known as "call rates" or "call

money" denote the rates which the stock exchange houses and bond dealers are required to pay for money on loans which may be called any day and on which the rates change from day to day. Sometimes this figure is more and sometimes less than the figure for "time-rates." "Time-rates" apply to loans maturing at a fixed date, such as six months or a year. When the bankers loaning money think that all rates are to strengthen in the near future, then the call-rate is less than the time-rate, and when the bankers having money to loan think that all rates are to decrease in the immediate future, then call-rates are higher than the time-rates. Some of the shrewdest borrowers take time money when the bankers are encouraging the people to take call money, and vice versa, on the principle that the bankers know more about the situation than their customers. However, this question of money rates is too complicated to present here in detail, but, as has been stated, the price of money can be easily ascertained at any moment by referring to the daily papers.

The *supply* of money is the most vital question as—unlike the price—it is not so subject to manipulation. This supply—as above stated—is best indicated by the weekly bank statement. This is simply a statement of the New York

banks and does not include statements from any of the other twenty thousand banks in the United States, nor the great banking institutions of foreign countries. The need of a complete weekly bank statement is already felt. The New York bank statement is already being made to include certain outside banks, and without doubt the time is coming when all of the large banks in this country will report their condition by telegraph every Saturday morning, so as to give a combined statement. This probably will later be followed by the banks of every country reporting their conditions by cable to London. This will give a bank statement which will show the exact financial situation and enable one to note the amount of available money as quickly and as certainly as he may now note the rate of interest. Until such a time comes, however, the New York bank statement, issued every Saturday noon, is the best barometer we have for judging the conditions.

In reading the bank statement the main point to note is the amount of "Surplus Reserve." For although every national bank is obliged to reserve a certain amount, the private banks and trust companies are not under the same law, but without doubt the public will, in time, demand laws compelling all to carry the same reserve.

In this bank statement appears the item "Reserve required" and either directly above or directly following this item is also the item, "Reserve held." It always should be observed whether the "Reserve held" is greater or less than the "Reserve required." If the ."Reserve held" is greater, then there is a "Surplus Reserve," but if not, then there is a "Deficit," which is a danger signal to all interested in financial or mercantile affairs. Since a "Deficit" occurs, as a rule, only just preceding times of panic, possibly for a few weeks out of two or three years, the merchant should notice each week, as he reads the bank statement, whether or not the "Surplus Reserve" is decreasing or increasing.

So long as the "Surplus Reserve" decreases, a corresponding increase in money rates may be expected; but if it increases each week, a decrease in money-rates may follow. Since the demand for stocks usually increases as the interest rate decreases, the stock market usually strengthens and the money-rates decline with the publication of what is known as a "good bank statement," namely, a bank statement which shows an increase in the "Surplus Reserve." On the other hand, as an increase in money rates usually forces a sale of stocks, due to the calling of the

loans, a "poor bank statement" is often followed by a drop in the market prices. When the bank statement is published on Saturday, the increase in interest rates cannot come until the following Monday, or possibly later, but the speculator anticipates this by selling on Saturday immediately upon the publication of a poor statement. The first sellers after a poor bank statement are supposed to obtain the best prices, and the first buyers after a good bank statement are supposed to obtain their securities at the lowest prices.

The meaning of the word "surplus" implies a difference between two other items; thus an increase in surplus may be due either to a decrease in one of the items, or to an increase in the other. The best bank statement is the one where the increase in "surplus reserve" is due to a reduction in "loans with increased deposits."

All merchants should keep a monthly record of the "Surplus Reserve" as per the first day of each month, although a plot is not necessary.

The following conclusions are suggested relative to the "Surplus Reserve."

1. *During a Period of Business Depression.*

(a) An increase signifies lower money rates but continued dullness.

(b) A decrease signifies higher money rates but improved conditions.

(c) No change signifies continued dullness.

2. *During a Period of Improvement following a Period of Business Depression.*

(a) An increase signifies that the recovery in business is not very marked, and that continued low money rates may be expected.

(b) A decrease is always the forerunner of higher money rates.

(c) No change is the most favorable sign.

3. *During a Period of Prosperity.*

(a) An increase signifies that prosperous conditions may be expected to continue, with no change in money rates.

(b) A decrease is often a danger signal and is always the forerunner of higher money rates.

(c) No change signifies continued prosperity.

4. *During a Period of Decline following a Period of Prosperity.*

(a) An increase tends to prolong present conditions, and to lower money rates.

(b) A decrease is a sign that conditions are growing worse and that higher money rates may be expected.

(c) No change signifies uncertainty.

Bank Clearings

(a) Total Bank Clearings of the United States.

(b) Bank Clearings of the United States with the exception of New York City.

In every large city and many small ones having more than two banks there is an institution known as a clearing house. Each day at some given hour the representatives of all the banks in the city or town meet at one of the banks and exchange checks drawn on one another. In other words, if customers of the Gloucester National Bank deposited during the day $20,000 in checks drawn on the First National Bank of Gloucester and customers of the First National Bank deposited checks to the amount of $15,000 drawn on the Gloucester National Bank, instead of the Gloucester National sending a messenger to collect the $20,000 from the First National and the First National sending a messenger to collect the $15,000 from the Gloucester National, representatives of both banks meet and exchange checks and the First National gives the Gloucester National a check for $5,000 to balance the account. This process of settlement is not of great importance in a city having only two or three banks, but the average rapidly increases as the number of banks increase. In large cities such as New York, Chicago, Philadelphia or Boston, the clearing house occupies a separate building and has regularly salaried employees.

The largest clearing house in this country is in New York City; it was established in October 1858 and passes annually an average of over $50,000,000 in the form of checks. In all there are about 135 clearing houses or associations in the United States. In other words, there are about 135 cities of sufficient importance and with a sufficiently large number of banks to have clearing houses and to publicly report their "Clearings." For further particulars as to the details of clearings and the business of clearing houses refer to Jas. G. Cannon's most complete book on the subject, entitled, "Clearing Houses," and also to "The Principles of Money and Banking" by Conant. For a very simple and condensed statement, refer to pages 80-86, inclusive, of "Money and Investments" by Montgomery Rollins.

Clearings serve as a very good barometer of present business conditions and the reason for this is as follows: Out of the 20,000 or more banks in the United States, about one-third are connected with one of the above-mentioned 135 clearing houses. This means that practically all of the checks handled by these thousands of banks, pass through some clearing house. Therefore by watching the record of the checks "cleared," we have an accurate idea of the total business transacted by about 7,000 banks. Moreover,

as these 7,000 banks are the largest of the 20,000 and in fact control about nine-tenths of the banking of the United States, these clearing house figures indicate the entire banking business of the United States for any given period.

As today practically all payments are made by check and all business is carried on through the banks, the volume of money handled by the banks by check, increases or decreases in constant ratio with the general business of the country. Therefore, as the banks pass their business through the clearing houses, a report on bank clearings is a very good barometer of present business conditions.

Some people make the mistake of assuming that by studying clearing house statistics one can easily *forecast* business conditions. A study of these statistics *is an aid* in forecasting business conditions and therefore is one of the factors used in making such a forecast, but taken by themselves they are of little value, as they refer only to present day conditions.

Some critics do not care "to know about present conditions, but desire only to forecast future conditions." This point of view is not logical, as a knowledge of present conditions is a necessary step toward forecasting future conditions.

Were it not for the systematic reports received on bank clearings, the barometer for present conditions would be much less valuable. But by a study of these clearings, as they are reported each week, one is in immediate touch with existing conditions throughout the country and is thus in a position to intelligently forecast future conditions. In making use of these statistics, for such a forecast, two methods are used:

1. The bank clearings are plotted for each week for a number of past years with a horizontal scale for weeks and a vertical scale of billions. With one half inch to a week this makes a plot about thirty inches long. It is customary to have each year under the preceding year, which is very easily done, as each plot is of the same length, although the angle of fluctuations is not constant. This gives comparative plots for several complete years, directly under which appears a plot for the present year up to the receipt of the last report on bank clearings. This not only gives the merchant a bird's-eye-view of the situation for the present year, but also an idea of what may be expected at different periods of the year. During some periods of the year poor figures on bank clearings are not, in reality, as unsatisfactory as if

they had occurred at other seasons, The principal use of this plot however, is to study the fluctuations of the last portion of the plotted line for the current year. In other words, the business man notes whether the variation of the last few months plotted for the current year, is upward or downward and also how said variations compare with similar months of previous years, or in other words, with *normal* figures. If the plots for these previous years can be combined into one plot for an assumed normal year, the work is greatly simplified. This may seem a very simple procedure, but if really comprehended and carefully studied, it gives not only a bird's-eye-view of present conditions. but in conjunction with a study of other subjects, gives the best possible idea of whether general business is becoming better, worse, or simply holding its own.

2. The other method is more mathematical and not so readily comprehended. Instead of plotting the figures for a series of years, merchants simply tabulate the totals as follows:

Bank Clearing of U. S.		Bank Clearings of U. S. Excepting N. Y.	
Year	Total	Year	Total
1883	$51,699,823,752	1883	$14,265,522,880
1884	44,165,125,355	1884	13,179,255,183

1885	41,439,303,599	1885	13,287,102,263
1886	49,247,681,466	1886	15,570,851,854
1887	51,091,236,324	1887	17,616,680,056
1888	49,484,584,175	1888	18,384,046,654
1889	56,110,250,455	1889	20,215,145,550
1890	60,546,563,997	1890	23,087,956,388
1891	56,657,179,617	1891	22,907,857,405
1892	61,919,125,622	1892	25,256,657,420
1893	54,143,527,180	1893	22,822,489,378
1894	45,460,058,609	1894	21,072,251,587
1895	53,180,700,764	1895	23,338,903,840
1896	51,246,323,830	1896	22,375,548,783
1897	57,229,070,956	1897	23,802,043,485
1898	68,826,557,324	1898	26,854,774,887
1899	94,047,400,783	1899	33,258,608,882
1900	86.070,549,683	1900	33,436,347,818
1901	118,410,015,182	1901	38,982,329,340
1902	118,023,298,740	1902	41,695,109,575
1903	109,209,187,164	1903	43,238,849,809
1904	112,449,664,015	1904	43,800,245,342
1905	143,872,974,359	1905	50,087,388,239
1906	157,749,328,913	1896	55,132,812,330
1907	144,188,663,955	1907	57,706,495,574
1908	132,272,067,412	1908	52,996,187,156

Column 2 is for the bank clearings of the *entire* United States and Column 4 is for the United States *with the exception of New York*

City. In practice these figures are sub-divided into months and only the past eight or ten years are studied, but this is not necessary for the purpose of illustration. As a second step, the merchant notes from the monthly tables the actual figures received for the current year and estimates the probable clearings for the current year. This may be illustrated somewhat as follows:—the merchant notes what proportion the clearings for January, February and March have heretofore borne to the clearings of the entire country. A novice might think it was simply necessary to multiply the clearings of three months by four in order to have an estimate for the entire year, but such a method is not correct, since it does not provide for the seasonable changes before alluded to. By making a study of the relation that these three months bear to the entire year for several years back, it is possible to make a very good estimate for the entire current year even if only three months are reported. On making this estimate, it is compared with the total figures for previous years and an opinion is formed of the probable business conditions for the current year. If the matter were dropped at this point these figures would be of no value, but the merchant revises this estimate each month, as new figures are

received and also notices whether the revised figures are increasing or decreasing. In other words, by this second method the merchant studies the statistics to note whether each succeeding estimate is an increase or a decrease over the previous estimate. If the new estimate is an increase, this shows that business conditions are improving as would an upward line on the plot. If the new estimate compared with previous estimates is a decrease, it shows that business is decreasing, as would a downward line on the plot. If the new estimate is practically the same as the last one, the estimate is confirmed and indicates that there is no change either for the better or for the worse, the same as shown by a horizontal line on the plot.

The remaining point to be considered on the subject of bank clearings is the reason for separating the subject into the two headings as given at the beginning of this paper and also as in the above tables. The reason for this subdivision is as follows: The clearings of New York alone are about one-third those of the entire country. If these clearings were simply a result of commercial business transactions, that is, the transactions of merchants, manufacturers and business men, there is no reason why

the New York Clearings should not always be included with the clearings of other cities. The facts of the case, however, show that an unduly large percentage of New York clearings is caused by the transactions of brokers or is intimately related to the stock exchange transactions. This may be clearly shown by plotting two lines, one for the transactions of the New York Stock Exchange and the other for the bank clearings of New York. These lines, although very "zig-zag," are almost parallel to each other, and when one rises the other follows, and vice versa. For this reason during dull times on the stock exchange, bank clearings of the United States *including New York* may show a decrease, even although general business throughout the country is increasing, while during a very active period on the New York Stock Exchange, the bank clearings of the entire United States *including New York,* may show an increase, even although general business throughout the country is decreasing.

For this reason, in order to judge correctly the general business of the entire country, that is, the business of the merchants and manufacturers, it is best to consider the bank clearings of the United States, *with the exception of New York City.* If the figures for the United

States *with the exception of New York City* have been plotted and a conclusion drawn, it is also well to then note the figures for the entire country, including New York City. If the figures for New York City confirm the conclusion arrived at when not including New York City, then the result may be considered absolutely correct. The most successful merchants *tabulate each month, both the figures including and excluding New York, but usually only plot one set, which is often that for the entire country, as the records are most complete in this form.*

The following conclusions are suggested relative to "Bank Clearings."

1. *During a Period of Business Depression.*

(a) An increase signifies that trade is improving.

(b) A decrease signifies that conditions are growing worse.

(c) No change signifies that trade conditions are remaining fixed.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase signifies that trade is continuing to improve.

(b) A decrease signifies that the improvement has temporarily been checked.

(c) No change shows that progress is very slow.

3. *During a Period of Depression.*

(a) An increase shows that trade conditions are very prosperous, although too great an increase under such conditions often forecasts trouble.

(b) A decrease shows that a change is taking place and business is decreasing.

(c) No change at this point often is a sign that a change is about to take place.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies a temporary check in the decline.

(b) A decrease signifies that the period of prosperity is over.

(c) No change shows uncertainty or possibly serves to delay the coming panic.

Stock Exchange Transactions

There are three features in connection with the New York Stock Exchange which are of value in forecasting business conditions. They are as follows:

1. The Quotations.
2. The Transactions.

3. The New Securities Listed. (See section entitled "New Securities."

Quotations

When studying the quotations, only a long period of time showing the general tendency should be considered. The fluctuations from day to day are of no value whatever, nor are the swings covering only a period of a few weeks. A study of the general tendency of the market, however, is of value in forecasting and prophesying business conditions.

If the highest point of each successive major swing is higher than the high point of the preceding swing and if the low point of each successive swing is not so low as that of the preceding swing, then the tendency of the market is upward. If the last high point and the last low point are lower than the high points and low points of earlier periods, then the tendency of the market is downward.

In order to study this matter intelligently, a plot should be made of the average prices of the leading railroad and industrial stocks. The list which many merchants use in connection with this work is as follows:

"Central of New Jersey," "Chicago, Milwaukee & St. Paul," Delaware & Hudson," "Great

Northern," "Illinois Central," "Louisville & Nashville," "New York Central," "N. Y., N. H. & Hartford," "Pennsylvania" and "Pullman." The average prices for these ten since 1860 are given in another chapter of this book.

As an aid in determining the tendency of the market, merchants make a dot at the center of each movement, or midway between the high point and the low point of each main swing. These dots are then connected with a line and this line shows at a glance the tendency of the market.

When two or three plots are made, it is interesting to compare a railroad plot with one for industrials, as there is a constant, though complicated relation between the two. Space does not permit a description of this matter in detail, so it must suffice to state that a further change in conditions may be discerned more quickly by having the two plots, one for railroads and the other for industrials, than if both are averaged together on the one plot. However, as *the industrial quotations almost always follow the railroad quotations, both in a rising market and in a falling market, one plot simply for the ten stocks above mentioned is perfectly satisfactory and avoids confusion.*

If considered in a conservative manner, the tendency of the stock market is very interesting to merchants when endeavoring to forecast business conditions. This is due to the fact that a change in the stock market is the first *visible* sign of a change in general business conditions. Railroad earnings are absolutely dependent upon business conditions, and stock market quotations are ultimately dependent upon earnings. Therefore, a rising market, over a certain period of time, means that the majority of operators believe that present conditions are becoming more normal, while a falling market means that these operators believe that present conditions are becoming very abnormal and unsatisfactory. In other words, a study of the stock market gives one a composite idea of the opinions of the ablest bankers and brokers. This is the reason why the stock market often turns to go down while railroad earnings are increasing, and often turns to go up while railroad earnings are still decreasing. In order that an operator may make money, some other operator must lose money. Therefore, the one who makes the most is not only the one who guesses right, *but the one who makes the right guess first.* For this reason the stock markt movements are the first *public* sign of a marked change in the relation of present business conditions to normal business conditions.

Transactions

A study of "Quotations," without due consideration of "Transactions," is of little value, because a rising market, during which only a few shares change hands, means very little, as such a market may be the result of manipulation. In the same way a falling market, when only a few shares change hands, may mean very little. In order to reach a correct conclusion the "quotations" should be considered in connection with the "volume." The *principle* which we have in mind is the same as "foot-pounds" in mechanics, "pounds" by themselves are meaningless, and "feet" by themselves have no significance to the engineer. It does not mean very much to say the power is sufficient to lift a body weighing a hundred pounds, or the power is sufficient to move a body one hundred feet. But when one states, that there is power enough to lift one hundred pounds through one hundred feet of space, it is possible to judge correctly the power involved. A similar relation exists between the "Quotations" and the "Transactions."

Therefore the leading bankers not only tabulate the quotations of the leading railroad and industrial stocks, but also the number of shares

traded in during a day. Often in addition are tabulated the bond sales on the exchange. When the volume of business for any one or more months is constant, one may judge business conditions by the quotations alone, but unless this volume is constant, its variations should always be taken into account. An average rise in the market of 1% with a volume of 2,000,000 shares means a rise in the market of more than 4% with a volume of only 200,000 shares.

Under the subject of "Plots and Charts" may be found a description of how plots are used by stock exchange houses for prophesying changes and turns in the market. This description is omitted here, as it need not be read by those who wish simply to study the best methods of forecasting general business conditions. Statisticians of stock exchange houses will be interested in such reading, but merchants *should purposely avoid the subject.* If followed too closely, these stock market plots are apt to be misleading, and in turning the attention from the main object of this work, are a hindrance. The business of the merchant is not to anticipate *stock exchange* movements, but *business* movements. Although there is a relation between the two, they are entirely distinct.

The following conclusions are suggested relative to "Stock Exchange Conditions."*

1. *During a Period of Business Depression.*

(a) An increase is a distinctly favorable sign that better trade conditions may be expected.

(b) A decrease is a sign that continued dullness may be expected.

(c) No change signifies uncertainty.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) An increase signifies that still better business conditions may be expected.

(b) A decrease signifies that the improvement is not to be as rapid as first expected.

(c) No change signifies temporary uncertainty.

3. *During a Period of Prosperity.*

(a) A great increase is an unfavorable sign for the reason that there is about to be a change.

(b) A great decline is a distinctly unfavorable sign and signifies that a cessation of business may be expected at any time.

*(In all studies of "transactions" it must always be noted whether the transactions increase when the prices are increasing or decreasing).

(c) No change signifies uncertainty among the brokers.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies that liquidation is in progress.

(b) A decrease signifies less satisfactory conditions.

(c) No change signifies temporary uncertainty.

New Securities

The reason for studying the subject of "New Listings" may be understood by a study of the three following fixed laws of economics:

1. *During a Period of Prosperity, as the number of new companies, new promotions and new securities listed increases, the danger of a panic increases and the time between said period of Prosperity and a future period of Depression decreases.*

2. *When the number of new promotions, new companies and new listings is at a minimum, financial depression is sure to be reaching an end.*

3. *As the number of new companies, new promotions and new listings increases from a minimum, the gradual increase is a sign of im-*

proved conditions until the normal number of new companies, new promotions and new listings is reached, after which an increase again becomes a source of danger.

Out of the list of twenty-five subjects of which this book treats, this one, namely, "The Number of New Companies, New Promotions and New Securities Listed," is the only one by which it was clearly possible to forecast the panic of 1903. For this reason this panic was said to be due to "undigested securities" and was known as "The Rich Man's Panic."

Of course one cannot rely upon the study of this one subject, as many panics have taken place when the figure for "New Securities" has been normal and the change in conditions could only have been forecasted by a study of the other subjects. In fact, the difficulty in studying this subject is that the figures remain very constant for a long period of time, and it is only the great dips, one way or the other, which are of any use.

Under normal conditions a study of this subject is of little value, but most useful under abnormal circumstances. If we are in a period of depression and we reach a period where no new companies are incorporated and there are absolutely no new promotions or listings, we

may be sure of better conditions in the near future. Conversely, if we are in a period of prosperity and there are an abnormally large number of promotions, an abnormally large number of new corporations being formed and new securities being listed, we may be absolutely sure of trouble. This usually comes first in the form of tight money, followed immediately by a decline in the stock market and later by a period of depression in business conditions.

The following figures clearly show this and particularly in connection with the "Panic of 1903."

Year	Stocks: Total value including new capital, old and refunding issues.	Year	Bonds: Total value including new capital, old and refunding issues.
1885	$56,913,116	1885	$197,259,000
1886	329,469,350	1886	238,097,690
1887	270,053,550	1887	343,477,321
1888	248,228,275	1888	511,002,218
1889	259,649,774	1889	389,720,000
1890	437,992,330	1890	684,867,879
1891	188,914,954	1891	287,645,700
1892	237,036,105	1892	317,861,500
1893	198,245,261	1893	288,803,400
1894	251,193,003	1894	309,804,600
1895	143,373,970	1895	257,275,400
1896	590,732,215	1896	582,286,700
1897	502,974,891	1897	357,415,902
1898	528,153,996	1898	700,064,680
1899	704,172,605	1899	525,384,240

1900	620,935,000	1900	443,713,000
1901	1,642,013,715	1901	923,010,100
1902	784,032,595	1902	a533,519,300
1903	426,890,295	1903	581,288,800
1904	175,866,800	1904	535,079,600
1905	533,434,900	1905	980,026,650
1906	662,769,450	1906	b571,898,500
1907	576,032,050	1907	420,813,000
1908	513,927,450	1908	827,958,000

(a) Does not include Imperial Russian States 4% Certificates $1,155,000,000.

(b) Does not include $425,000,000 Japanese Government bonds.

Therefore all merchants systematically tabulate each month the amount of new securities listed, although the "stocks" and "bonds" are added; thus avoiding the necessity of two tables.

The following conclusions are suggested relative to "New Securities Issued."

1. *During a Period of Business Depression.*

(a) An increase signifies that confidence is returning.

(b) A decrease signifies that continued dullness may be expected.

(c) No change generally signifies the same.

2. *During a Period of Improvement Following A Period of Business Depression.*

(a) An increase signifies that permanent improvement is under way.

(b) A decrease means that the improvement has been temporarily checked.

(c) No change signifies that the improvement is progressing very slowly.

3. *During a Period of Prosperity.*

(a) An increase, especially if great, is a sign of impending disaster and the culmination of the period of prosperity.

(b) A decrease tends to lengthen said period.

(c) No change usually calls for caution.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase is a sign that much worse conditions may be expected before the bottom is reached.

(b) A decrease indicates that conditions are naturally adjusting themselves.

(c) No change is a bad sign, if large issues are still being offered, but otherwise it shows nothing of importance.

Business Failures

Every great crisis has been made known to the public by one or more large failures, sometimes accompanied by the exposure of dishonest methods, sometimes by political or national calam-

ity, more often by the failure of some bank or number of banks in endeavoring to finance industries or new corporate undertakings. So failures,—that is, large, single failures,—stand as signals of sharp crises, and the beginning of depression. They may be followed by other large failures and many small ones, so quickly that the total of both number of failures and liabilities for the panic year is swelled as in 1893, above the limits of other years just preceding or following it, or the failure record may move slowly and more than a year be needed for any great change. Failure statistics, however, are of principal use in determining the probable length of a period of depression, and the following figures show that—following a crisis—in no case has prosperity returned until failure statistics became normal.

FAILURE STATISTICS FOR THE UNITED STATES

Table 1

Compiled from figures furnished by R. G. Dun & Co.

Year	No of Failures	Liabilities Expressed in Millions	Year	No of Failures	Liabilities Expressed in Millions
1857	4,932	291.8	1865	530	17.6
1858	4,225	95.7	1866	1,505	53.8
1859	3,913	64.4	1867	2,780	96.7
1860	3,676	79.8	1868	2,608	63.7
1861	6,993	207.2	1869	2,799	75.0
1862	1,652	23.0	1870	3,546	88.2
1863	495	7.9	1871	2,915	85.2
1864	520	8.6	1872	4,069	121.1

1873	5,183	228.5	1891	12,273	189.9
1874	5,830	155.2	1892	10,344	114.0
1875	7,740	201.0	1893	15,242	346.8
1876	9,092	191.1	1894	13,885	172.9
1877	8,872	190.7	1895	13,197	173.2
1878	10,478	234.4	1896	15,088	226.1
1879	6,658	98.1	1897	13,351	154.3
1880	4,735	65.8	1898	12,186	130.7
1881	5,582	81.2	1899	9,337	90.9
1882	6,738	101.5	1900	10,774	138.5
1883	9,184	172.9	1901	11,002	113.1
1884	10,968	226.3	1902	11,615	117.5
1885	10,637	124.2	1903	12,069	155.4
1886	9,834	114.6	1904	12,199	144.2
1887	9,634	167.6	1905	11,520	102.7
1888	10,679	123.8	1906	10,680	119.2
1889	10,882	148.8	1907	11,725	197.4
1890	10,907	189.9			

As example of such reading of the figures, note in the above table the year 1857, both for number and liabilities. Note that the crisis is indicated in the amount of liabilities, while 1858 shows a still larger number of failures but a reduction of liabilities amounting to more than 32.8 per cent. The next three years show depression by a relatively large number of failures; but they are of lessening average amount of liabilities. That failure of statistics may indicate not only the length but the general character of a depression is proved particularly well from the course they take after the crisis year of 1873 to

the height of the depression in 1878 and for a shorter period from 1893 to the culminating year of 1896. From this table it is evident also that the number of failures is often larger toward the end of the depression than during the crisis year, but the average of liabilities per failure is less.

FAILURE STATISTICS FOR THE UNITED STATES

Table 11

Compiled by figures furnished by R. G. Dun & Co.

Year	Number of Failures	Liabilities	Average Liabilities	Liabilities per capita of population	Liabilities per firm in business	Per cent of fai'res
1875	7,740	$201,060,333	$25,960	$4.55	$339.87	1.21
1876	9,092	191,117,786	21,020	4.23	305.15	1.33
1877	8,872	190,669,936	21,491	4.11	302.60	1.36
1878	10,478	234,383,132	22,236	4.92	259.49	1.55
1881	5,582	81,155,932	14,530	1.58	108.65	.71
1882	6,738	101,547,564	15,070	1.93	129.94	.83
1883	9,184	172,874,172	18,823	3.22	210.23	1.06
1884	10,968	226,343,427	20,632	4.12	261.94	1.21
1885	10,637	124,220,321	11,678	2.21	137.28	1.16
1886	9,834	114,644,119	11,651	2.00	124.60	1.01
1893	15,042	346,779,889	22,751	5.22	290.65	1.28
1894	13,885	172,992,856	12,458	2.55	155.25	1.25
1900	10,774	138,495,673	12,854	1.81	119.63	.92
1901	11,002	113,092,376	10,279	1.45	94.63	.90
1902	11,615	117,476,769	10,114	1.49	94.85	.93
1903	12,009	155,444,185	12,879	1.94	122.33	1.12
1904	12,199	144,202,311	11,820	1.76	111.33	.92
1905	11,520	102,676,172	8,193	1.24	78.75	.85
1906	10,682	119,201,515	11,159	1.41	86.52	.77
1907	11,725	197,385,225	16,834	2.31	139.75	.82
1908	15,690					1.08

From this second table we have another view of the usefulness of failure statistics. As in

table one, the panic years are plainly marked by the per cent. of failures to the total number of firms in business, but table two also shows something additional relative to business conditions.

We find that up to 1878 the possibility of loss, that is the ratio of "liabilities" to the "number of firms actually in business," was large or increasing from year to year, as was again true from 1893 to 1896, while the effect of the crisis of 1903 gave place very quickly to prosperous conditions, not equalled in this respect for thirty years. This table gives a very valuable measure in the "per cent of failures" to the firms in business. This shows that such figures as 11.002 for the failures in 1901 and 10,428 for 1878 marked two degrees of depression more widely different than they would seem at first glance, and that the high number 11,725 of 1907 or even 15,675 in 1908 to an indication of conditions much less severe than the 7,740 of 1875.

Nevertheless, the study of the past, however interesting as pure history, is regarded only as a means of understanding the significance of current changes and the points above mentioned are of value only in connection with the present day figures.

The year 1907 is of special interest in this con-

nection. It is known as a "panic year," and the events of the months following October with its signal failures of certain New York banks becomes a part of history closely joined to present problems. While it is true that not one, but all factors, must be weighed together in estimating the comparative position of 1907 among critical periods, the statisticians find something of special value in the statistics of failures.

Statistics of the year are available in different forms. Divided into months, as is the customary way for merchants to compile them, there is meaning to be found in the year's record on lines similar to those used for the annual tables. The following figures for liabilities expressed in millions, serve as illustrations: The "number" is omitted from these tables, as it is not customary for merchants to record said figures. If additional tables are desired, the "per cent to the firms in business" is recommended.

Compiled from figures furnished by R. G. Dun & Co.

Month	1903	1904	1905
Jan.	$12.978	$18.483	$10.417
Feb.	10.907	15.812	9.780
Mar.	10.458	13.770	9.964
Apr.	11.811	13.136	8.056
May	12.314	9.817	8.907

June	8.326	8.469	8.777
July	17.751	8.812	6.148
Aug.	10.877	10.491	6.140
Sept.	7.229	12.864	8.039
Oct.	18.387	10.525	6.751
Nov.	16.422	8.535	8.866
Dec.	18.978	13.481	10.823

Month	1906	1907	1908
Jan.	11.952	13.628	27.099
Feb.	10.859	10.283	27.064
Mar.	10.949	8.163	21.542
Apr.	8.059	11.082	20.316
May	12.992	9.965	13.643
June	7.850	16.444	14.708
July	6.919	12.334	14.222
Aug.	8.821	15.197	23.782
Sept.	6.255	18.935	17.298
Oct.	10.553	27.444	15.898
Nov.	11.980	17.637	12.599
Dec.	12.006	36.296	14.139

These tables give examples of what may serve as types of years, that is, 1903 had what was called "the rich man's panic" beginning with the stock market in the summer of that year and continuing as shown very clearly by the tables. Normal years, such as 1905 or 1906, show heav-

iest liabilities from October to March, any increase between these times coming just before or just after the fiscal year. The presence of business trouble is indicated in July of 1903, when we find the amount of liabilities very much increased; moreover, the increase and this ratio are maintained, practically unbroken for ten months. While this table cannot of itself give us entire information, because a true study of statistics goes no further than absolute knowledge, the points just shown bring us close to our every day use of such figures. Without knowing anything of the exact causes, a man with these figures at his hand could not have failed to think a little when, in the report for June 1907, liabilities ran over 40% higher than in 1906 and nearly as much higher than 1905. As the new figures were received each month and the month of September reached an aggregate of nearly $19,000,000 compared with $8,039,947 for the same number of failures in September 1905, surely the change in ratio could have told something very definite as to the approach of bad times. Considering the liabilities in connection with the per cent. of failures we find the crisis month to have been November, (average liabilities $32,026.80 as compared with December $30,760.06) for we main-

tain that the smaller "per cent." with heaviest liabilities, marks the financial climax; that is, the public break or the great signal failure that openly declares trouble. By the quickest, roughest estimates, the course of affairs can be very plainly traced by having these failure statistics at hand.

While to obtain accurate comparisons of the progress of the current year, as compared with others, always requires more close calculating of the percentage in gain or loss *per firm in business,* yet the work yields a good return. These current figures are those most constantly watched by bankers and merchants who prefer to have their own eyes on the clouds ahead, rather than trust entirely to a less interested authority.

The following table (Bradstreet's) is also of interest in connection with analyses of failures, although these figures are of no use in forecasting business conditions.

PERCENTAGE OF FAILURES AND LIABILITIES CLASSIFIED AS TO CAUSES
UNITED STATES PER CENT

	Number				Liabilities			
Failure due to	1907	1906	1905	1904	1907	1906	1905	1904
Incompetence .	22.6	22.3	24.4	23.1	8.9	15.5	21.6	14.1
Inexperience ..	4.9	4.9	4.8	5.1	3.2	2.2	2.1	3.2
Lack of capital	37.1	35.9	33.4	32.2	18.4	30.9	33.0	31.8
Unwise credits	2.3	2.6	3.5	3.4	3.1	2.1	4.2	4.8
Failures of others	1.4	2.0	2.2	2.5	3.3	8.8	4.5	8.2

	Number				Liabilities			
Failure due to	1907	1906	1905	1904	1907	1906	1905	1904
Extravagance .	.9	1.0	1.1	.8	.5	.9	.12	.7
Neglect	2.5	2.2	2.9	3.1	.5	1.5	1.1	1.6
Competition ..	1.2	1.0	1.5	1.3	.4	.4	.9	1.0
Specific Conditions	16.3	17.3	16.3	19.1	51.7	17.9	15.5	22.7
Speculation ...	.7	.8	.7	.8	4.9	3.6	7.7	5.3
Fraud	10.1	10.0	9.2	8.6	5.1	16.2	8.2	6.4

For example, if 1907 showed, as is claimed, 37.1% failure due to loss of capital, and if figures show that this cause is increasing year by year, it means clearly that the beginnings of new enterprises must be increasingly well supported, as it grows more difficult to add to inadequate capital when money rates are high or competition makes it imperative to expand. As inexperienced, comparatively incompetent heads must continually join the ranks, constant watching of the details of failure statistics is a practical necessity for them as well as for those whose money is invested in their interests.

As Bradstreet's tables exclude all losses except those strictly commercial; that is, those failures involving loss to creditors of individual firms, or corporations engaged in legitimate mercantile occupations, they cannot be compared, figure for figure, with the tables from other sources, but believing that the figures due to failure in insurance, real estate, brokerage, etc., do have a distinct effect upon general

business conditions, the analysis of these also should be a part of a study of the whole subject. Certain facts, however, included in the interesting report before alluded to, should be mentioned here as bearing on the question. One of these we have already suggested; namely, that as the country advances, statistics furnish evidence that the "commercial death rate" is growing less. The decrease is as yet not one-half of one per cent., but the rate is being reduced from 1½% maximum to something under 1%. Of course we should like to believe that this is a permanent improvement in business intelligence, but this point the future only can prove.

Another law recognized by merchants and already suggested in this discussion, is that small firms do not feel the effect of a panic or depression until sometime after the effect is felt by the larger firms. For this and other reasons the study of this subject is especially valuable as a guide and protection to small merchants and storekeepers.

In conclusion we will repeat that the figures are of greatest value to all in determining what the length of the present "period" will be, and how soon one's own business and that of others, in

which he has greater or less investments of capital, may be expected to show a change. When the flood begins to subside from its high water mark, a study of the rate at which it is subsiding, and a knowledge of the condition of each tributary stream assists very much in estimating the time when seed may be planted in the rich bottom land, now under water, or *inversely* as the case may be. We need not carry this figure of speech further, in order to show that it contains the idea upon which merchants rate the study of *Business Failures* as of fundamental importance to their progress. For such study is but a part of a system by which they may know exactly the conditions upon which the next move should be based, and upon the result of which depends the subsequent course of the business life of each individual.

The following conclusions are suggested relative to "Business Failures."

1. *During a Period of Business Depression.*

(a) An increase signifies that the depression is not ended.

(b) A decrease, after a large increase, signifies that a change for the better may be expected.

(c) No change signifies that caution is still necessary.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) An increase in failures signifies that the improvement may be temporarily checked.

(b) A continued decrease signifies that the improvement is progressing satisfactorily.

(c) No change signifies that caution is still necessary.

3. *During a Period of Prosperity.*

(a) An increase in failures, especially large concerns, signifies that a change for the worse may be expected.

(b) A decrease signifies that prosperity may be expected to continue a while longer.

(c) No change signifies nothing of importance.

4. *During a Period of Decline following a Period of Prosperity.*

(a) An increase signifies that conditions are daily becoming worse.

(b) A decrease signifies that a temporary check may be expected in the decline.

(c) If there is no change the figure need not be considered.

Immigration Figures and Labor Conditions

The general subject of labor conditions is of importance in diagnosing present business conditions and in forecasting changes which may be expected. But labor interests involve so many factors and include so wide a field of investigation that, with the statistics at present available, it is absolutely impossible to compile figures that are sufficiently complete to tabulate for comparative purposes. It is hoped that some day either the labor unions or the government will find some practical means of keeping exact records of the number of men out of work, the rate of wages in effect and other items necessary for this purpose.

At present the only complete figures are the census reports compiled once in ten years, and partial figures of some of the states reported only once in five years, but neither set of figures is of much use to the business man. There are also certain states which, in connection with the public employment bureaus, publish a classified list every week or month entitled "applicants desiring work," but these lists are very incomplete and their records of little more practical use, as statistics, than are the similar records kept by the leading charitable institutions. If every city or charitable institution did the work

thoroughly and kept the dead matter weeded out, a publication of the results would be worth while, although they might cover but a small portion of the country. The same might be said of the labor union figures. These, if kept properly and accurately for a definite period and area, would be very valuable to the manufacturer and business man, but under present conditions they are at the most only suggestive, not fit for precise analysis. Of all available statistics, those coming from the Commissioner of Labor are the most to be depended upon; monthly reports of the same sort would be of distinct value for the purposes of Fundamental Statistics. With his present office methods however, even his work is not at all adapted to our use.

For either determining the present trend or forecasting the approaching conditions, only figures which can be used for *comparative* purposes are of value. It is not necessary to have monthly figures covering a large section of the country, but *they must cover the same section of the country* at each statement. It makes little difference whether the reports are issued weekly or monthly, but it is of vital importance to systematic work that *each report should cover the same period of time*,—that is, either one week or one month regularly. Therefore, while there

are today many organizations preparing figures which may, after a time, become of distinct value for comparative purposes, none of them have yet reached the point,—with the possible exception of those from the Immigration Department of the United States.

The immigration figures are issued monthly, each report covering the same ports, and these figures all systematic manufacturers and merchants carefully tabulate.

One of the valuable features of the present day method of studying Fundamental Statistics, under twelve general headings, is that under each general heading or group, sub-topics can be added at any time, extending over an increasing amount of subject-matter. For example, the subject of this group is "Labor Conditions" and at the present time the only figures tabulated are those on immigration, but as soon as suitable reports from the labor unions, charitable institutions, or other sources are obtainable, additional tables can be inserted for these additional figures. All such subjects, accurately reported will contribute to an exact understanding of the condition of labor in this country. In other words, in the final deductions, the same amount of weight will be given to "Labor Con-

ditions" as formally, but in arriving at our decision as to labor conditions, there will be more factors to consider.

The reason for using immigration figures, is that they are an extremely good barometer of labor conditions. The steamship lines maintain a balance in the supply of labor between the United States and Europe. Labor, like water, seeks its own level, when both living expenses and wages are considered. Of course, if it costs five times as much to live in New York as in Italy, the Italian laborer will not come to this country for simply five times the wages that he receives at home, provided the *demand* for labor is the same in each country. Therefore, wages, living expenses and demand must be considered. On the other hand, if the Italian can obtain wages in New York equal to ten times what he will receive in Italy, he will board a steamer for the United States, even with the expenses in New York five times as great as at home. Such high wages the Italian may always obtain in America in times of prosperity, and especially in times just preceding the culmination of a period of prosperity.

Conversely, when this period culminates, the demand for labor decreases, wages decrease and the Italian boards a steamer and returns to

Italy. Therefore, as the Government keeps a careful record of when the immigrant enters the country and when he leaves, this report is an extremely good barometer of the labor conditions in the United States. Of course under almost any circumstances there are more people coming into a new country, like the United States, than there are going out, but the size of this excess number is very sensitive to changing conditions in the country as a whole.

By studying and comparing the figures of the past twenty years, it will be seen that a crisis or depression in business conditions came very soon after the highest figures for immigration are reached. It is likewise true that there was an improvement in business conditions when, during a period of depression and very low tide of immigration, there began to be an increase in immigration. In other words. very large numbers of alien arrivals during a period of prosperity may be counted as one of the factors signifying a culmination of such a period of prosperity. Conversely, a steady increase in the incoming steerage during a period of depression, is one of the factors significant of beter business conditions.

As is the case with most of the others of these subjects studied by bankers and merchants,

an increase does not always mean the same thing, neither does a decrease under all circumstances. Sometimes an increase is a dangerous sign and sometimes tells of improvement, and the same with a decrease. These things cannot be reduced to a rule of thumb, but the merchant must use his judgment to a certain extent. The rule given above however, is almost infallible.

There is also another reason why these immigration figures are of interest, namely: the aliens leaving the country are not only a barometer of business conditions, but they also influence the trend of those conditions. When a foreigner enters this country he usually brings a little money, for he knows that he will need a place in which to sleep while here and must have some food and clothes. On the other hand, when leaving the country he takes from circulation a certain amount of money which is almost invariably many times what he brings into the country. In addition he directly reduces the income of some landlord and the business of some small grocer and dealer in second-hand clothing.

Therefore very large immigration figures during periods of prosperity mean that there are many people who will be obliged to leave the

country as soon as the period of prosperity culminates, and therefore the reaction will be greater and even more severe than if they had not entered the country. In the same way an increase during a period of depression not only signifies better conditions, but these people entering the country are themselves the means of creating better conditions both by the amount of money which they bring with them and the business which they create after arriving. *Therefore the necessity of tabulating monthly figures on immigration.*

The following conclusions are suggested relative to immigration figures.

These figures have special bearing on the Condition of Labor in the United States.

1. *During a Period of Business Depression.*

(a) An increase after a distinct decrease shows that conditions are improving.

(b) A continued decrease signifies that conditions are not as yet improving.

(c) No change signifies that conditions are at a standstill.

2. *During a Period of Improvement Following a Period of Business Depression.*

(a) An increase signifies that the improvement in conditions is progressing satisfactorily.

(b) A decrease signifies that the improvement is temporarily checked.

(c) No change signifies nothing definite.

3. *During a Period of Prosperity.*

(a) A great increase calls for caution.

(b) A decrease signifies that the corner is being turned and a reversal of conditions may be expected.

(c) No change signifies that prosperity may be expected to continue longer.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies a temporary check in the decline.

(b) A decrease signifies that conditions are rapidly becoming worse.

(c) No change signifies nothing definite.

Imports of Merchandise Into the United States

Connected with Fundamental Statistics and very closely related to one another are the three following subjects:

Imports of Merchandise into the United States.

Exports of Merchandise into the United States.

Balance of trade between the United States and foreign countries.

Each of the three subjects is absolutely dependent upon the others and were it not for the separate tables connected with each individual subject, it would doubtless be simpler to treat all three in one comprehensive section entitled "Imports, Exports, Trade Balances and Volume."

Owing, however, to the fact that it is absolutely necessary for the banker or merchant to divide the figures into three separate tables and not allow them to be combined in any way, each is here treated independently.

No detailed definition need be given of the imports of the United States, except that the word import refers to the valuation of the raw material, manufactured goods and all other products purchased from abroad and entering any port or crossing any boundary of the United States. It may be mentioned also that although the figures published by the Government are correct for *comparative* purposes, they are of themselves low. For this there are two reasons: first, there is, without doubt, a large quantity of goods brought into this country of which no record is ever made; and second, the "values" are placed by the importers at the lowest possible figures in order that the charge for duty will be as little as possible.

(Figures prior to 1867 are given for the fiscal year ending June 30. After that year they are for the calendar year).

Table of U. S. Imports

Year	Imports	Per capita.
1860	$353,616,119	$11.25
1861	289,310,542	9.02
1862	189,356,677	5.79
1863	243,335,815	7.29
1864	316,447,283	9.30
1865	238,745,580	6.87
1866	434,812,066	12.26
1867	371,476,175	10.23
1868	368,006,572	9.94
1869	438,455,894	11.60
1870	461,132,458	11.97
1871	573,111,099	14.47
1872	655,964,699	16.15
1873	595,248,048	14.27
1874	562,115,907	13.13
1875	503,153,936	11.43
1876	427,347,165	9.47
1877	480,246,300	10.37
1878	431,812,483	9.07
1879	513,602,796	10.52
1880	696,807,176	13.88
1881	670,209,448	13.06

Year	Imports	Per capita.
1882	752,843,507	14.36
1883	687,066,216	12.81
1884	629,261,860	11.48
1885	585,868,673	10.49
1886	663,429,189	11.57
1887	708,818,478	12.09
1888	725,411,371	12.11
1889	770,521,965	12.58
1890	823,397,726	13.15
1891	828,320,943	12.96
1892	840,930,955	12.91
1893	776,248,924	11.68
1894	676,312,941	9.97
1895	801,669,347	11.60
1896	681,579,556	9.66
1897	742,595,229	10.32
1898	634,964,448	8.66
1899	798,967,410	10.68
1900	829,149,714	10.86
1901	880,419,910	11.34
1902	969,316,870	12.30
1903	995,494,327	12.42
1904	1,035,909,190	12.71
1905	1,179,144,550	14.24
1906	1,320,501,572	15.69
1907	1,434,421,425	16.55
1908	1,116,449,681	12.85

In studying the above tables it is convenient to refer to only the "per capita" column which shows very clearly the great value of these figures in forecasting a panic. At the close of the Civil War the people were importing on a basis of about $10 per capita and this steadily increased to over $16 in 1872. This increase was far above what it should have been and was therefore naturally followed by the panic, which came the following year, namely, 1873. As is the case with all panic years, the imports immediately dropped off from $16 to about $14 and steadily decreased for about five years.

Beginning with 1879 the imports again increased and property likewise increased until 1882, when they again reached $14.36 per capita. Although this figure was not equal to the previous high figure for 1872, yet the rise was more rapid and it is not surprising that in the latter part of the following year there occurred another panic, namely, the panic of 1883-4. In 1885, or directly after this panic, imports again dropped to a minimum of $10.49, but gradually increased along the normal line until they reached over $13.00 per capita, at which point they remained constant during 1890, 1891 and 1892. As could readily have been predicted, these high figures

were followed by another panic in 1893. During the next year, as is invariably the case, the imports again declined to $9.97. Since that time they have increased to a more or less irregular rate up to 1907 when they again reached $16, at which figure they stood preceding the great panic of 1873. Then followed a sharp reduction to $12.87, coincident with the panic of 1907-08 and its curtailing of imported luxuries. The above tables therefore show that the same law has been observed in connection with all panics excepting that of 1903, which, as explained under "New Securities," was due to one specific cause as stated by Mr. Morgan; namely, "the congestion of undigested securities." Where the figures on 80% of our subjects clearly forecasted all panics excepting said panic of 1903, in only a few tables was the approach of this panic indicated. On the other hand, in these few tables, especially the table for "New Securities Listed" and "New Corporations," the increase was so tremendous, several hundred per cent., that they of themselves were a sufficient danger signal, even although the figures on the other subjects appeared normal.

In studying the figures on imports, we see that too great an increase in imports is a dangerous sign. This is due to two reasons: first,

that it necessitates the exportation of too much gold and secondly, that it signifies too great an extravagance on the part of the American people. As continued exports of gold are usually followed by advanced money rates, so too great an expenditure of money for luxuries and unproductive material, especially when imported, is followed by a period of economy and *repentance.*

Not only are large figures for imports suggestive of a panic, but small figures, especially when they are increasing at a slow and conservative rate, are suggestive of better times. This latter phase is especially well illustrated in an article which appeared some time ago in the New York Evening Post. This begins by referring to a Wall Street man who rather facetiously remarked that good times were surely coming for he noticed that people were "wearing their old clothes." This remark, made carelessly, nevertheless was a statement of the tremendously important factor which personal thrift becomes during a period of depression.

In times of abounding prosperity it is easy for people to assume a contemptuous attitude toward petty economies. The talk is of making money, not of saving it. But a panic brings out the economic truth about the relation of

savings to new business operations. "It must always be remembered," writes Lord Welby, commenting on an American panic in the Contemporary Review, "that the capital required to extend business and to open new fields of trade can only be supplied by the savings of the world:.....But there is a limit to these accumulations, large as they are. If the passions of the world, the extravagance of the world, and above all the growing needs of the world trench too closely on the accumulations of the world, financial stringency will inevitably be the result." And it is a fact that even the most trivial form of saving becomes a large financial operation when generally practised.

How much can the American nation save by each man wearing his clothes two years instead of one? The census report of manufactures shows that the factory product of men's clothing during a good year is valued at about $375,000,000. One-third of this, or considerably less than one-third on the basis of retail prices, would more than equal the entire balance of trade in this country's favor in a normally favorable month.

There are over $40,000,000 worth of felt hats sold during a good year. By wearing their

felt hats 50% longer than they have been accustomed to doing, plain Americans can effect a saving, in a year, greater than the great gold imports necessary to adjust conditions during a critical period.

"Yet it is not always with clothes that people adopt a policy of retrenchment. If, for example, they cut down by only one-third the amount they spend on fresh beef, leaving all other items on the butcher's bill unaltered, the sum would be greater than twice the amount paid over the counters of the bank which in October 1907, endured the longest "run" in the history of banking institutions. Contract by the same proportion the consumption of all kinds of meat,—and many authorities think this would be well worth while from a hygienic point of view alone,—and a sum equal to the entire Government surplus at the time of the panic on Nov. 1, 1907, would be saved in less than ten months.

As to the commodities which are classed as real luxuries, the facts are equally striking. Enough cigars were "withdrawn for consumption" in 1907 to provide about eight and one-half cigars a week for every smoker, on the assumption that one-fifth of the total population, including babes in arms, may fairly be

put down in that class. Even for mere purposes of illustration, no one would be cruel enough to suggest treating the cigars as the colonists once treated the tea. But in a great emergency the average smoker might consider cutting down his allowance to one cigar a day. That trifling act would make a difference in the country's cigar bill of three and one-half millions a year."

It would of course be a simple matter to carry the calculation through other departments of production, *but the above suggestions are enough to illustrate this second reason for tabulating monthly figures on imports, as a barometer of economy. It is, however, unnecessary that the monthly figures should be tabulated on a per capita basis, as the change in population is so slight.*

Many merchants when studying foreign trade, instead of considering exports and imports separately, add them together and call their sum the *volume* of trade. This figure is valuable as a barometer of general business activity. It should not be confused with the balance of trade which is the difference between exports and imports and is watched by bankers for its effect upon the money rates and gold supply.

The following conclusions are suggested relative to "Imports."

(These figures are also valuable both as a barometer of the American demand for luxuries and for forecasting money conditions.)

1. *During a Period of Business Depression.*

(a) A normal increase signifies that conditions are improving,—provided said increase does not adversely effect the balance of trade.

(b) A decrease signifies the reverse.

(c) No change signifies nothing of importance provided the exports are likewise constant.

2. *During a Period of Improvement Following a Business Depression.*

(a) An increase, if not too great, signifies that domestic trade is continuing to improve.

(b) A decrease signifies that economy is still being practised.

(c) No change signifies nothing of importance, provided the exports are likewise constant.

3. *During a Period of Prosperity.*

(a) An increase, especially if abnormally large, is a sign of the end of the period of prosperity.

(b) A decrease tends to lengthen the period of prosperity.

(c) No change signifies nothing definite.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase is an unfavorable sign.

(b) A decrease signifies that the decline is progressing in a healthy manner.

(c) No change is not a favorable sign.

Exports of Merchandise From the United States

By exports is meant the goods shipped from the United States to any foreign port or country. This includes all raw materials, manufactured articles and in fact anything for which a resident of the United States receives money.

The monetary condition of the country depends on three things:

1st. The amount of money in the country.

2nd. The demand for money.

3rd. The confidence of the people.

The first item, namely, the amount of money in the country, is very dependent upon the exports of the country. Technically, this is dependent upon the balance of trade, a term explained in the next section of this chapter, but practically it is dependent upon the exports.

Formerly the amount of exports was dependent almost entirely upon the amount of raw material produced; that is, wheat, corn, cotton,

live stock, products, etc. The condition of the main crops of wheat, corn, and cotton, as well as that of the smaller crops, such as hay, apples, potatoes, etc., determined the exports. With small crops the exports were very small, while with large crops the exports were large.

This condition, however, has changed during the past eighteen years, in which period there has been a very great increase in exports. The total exports of the United States have increased from $500,000,000 to $1,300,000,000, and this increase has been almost wholly in manufactured products. In 1890 the United States was exporting about $140,000,000 in food products and raw materials which amount has increased only to about $165,000,000 in 1908. On the other hand, the exports of manufactured products have increased from $400,000,000 in 1890 to nearly $1,100,000,000 in 1908.

It is important to note the change in the proportions between the agricultural and manufactured exports for, if exports are to depend upon manufactured articles rather than on raw materials, bread-stuffs, etc., this will tend to eliminate the decline in exports which heretofore have occurred during years of crop failures. Andrew Carnegie says that the time is

coming when the greater part of the raw materials now forming the bulk of the export figures of this country will be used here, and their place in export trade will be taken by *manufactured* articles. Then the American manufacturers can reach the markets of the world and compete therein with all the other industrial and commercial nations.

If this is so, and the figures for the past eighteen years seem to prove it, our exports probably not only will continue to increase, but the fluctuations will, as above suggested, be much less marked. This is another reason why we should carefully study the figures on the "balance of trade," rather than the figures on the "exports" or "imports" exclusively.

There is one point in connection with exports, however, that the merchant and investor should especially remember, namely, that in the ordinary course of events, exports continue to increase for some time after a period of depression begins, although the *proportion* of exports to imports *decreases*. This is due to the fact that the momentum of the energy which increased production and exports during the period of prosperity itself, does not immediately lose its force. Moreover, the increase in exports usually continues until increased activity

at home increases demand and prices, after which exports begin to diminish. Therefore, during a period of prosperity, a decrease in exports is a dangerous sign, as it will tend to adversely affect the balance of trade. This is also true at the beginning of a period of depression, but after a period of depression has been existing for some time, then a decrease in exports is often a favorable sign, as it shows that home consumption is increasing; *therefore the necessity of systematically tabulating the monthly figures on exports. Neither these figures, however, nor the figures on imports need to be plotted.*

Many merchants when studying foreign trade, instead of considering exports and imports separately, add them together and call their sum the *volume* of trade. This figure is valuable as a barometer of general business activity. It should not be confused with the balance of trade which is the difference between exports and imports and is watched by bankers for its effect upon the money rates and gold supply.

The following conclusions are suggested relative to "Exports" and also relative to "Volume of Foreign Trade":

(These figures are also valuable as a barometer of foreign trade conditions and for forecasting money rates.)

1. *During a Period of Business Depression.*

(a) An increase signifies that conditions are improving.

(b) A decrease signifies continued dullness.

(c) No change signifies that conditions are at a standstill.

2. *During a Period of Improvement Following a Business Depression.*

(a) An increase signifies that the improvement in conditions is progressing satisfactorily.

(b) A decrease signifies that the improvement has been temporarily checked.

(c) No change signifies nothing definite.

3. *During a Period of Prosperity.*

(a) A great increase calls for caution.

(b) A decrease signifies that a decline may be expected.

(c) No change signifies nothing definite.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase calls for caution.

(b) A decrease is normal.

(c) No change calls for further study.

Balance and Volume of Trade

One of the most important of the subjects that investors and merchants study when analyzing present conditions and forecasting future

conditions, is the *balance of trade.* When we have sold to foreign merchants raw materials or merchandise greater in value than that which they have sold to us, the balance of trade is said to be in favor of the United States as against foreign countries. This naturally results in the shipment to America of gold, to adjust the balance, or the selling in the United States of "exchange" at a discount, if the condition is but temporary. The balance of trade *does not always* determine the debtor country, as there are other factors to be considered, but as a rule this is the case.

The "other factors" above referred to, are such factors as the sale of American securities abroad or the payment of interest by the United States and corporations therein to foreign security holders. Although from the bond dealer's point of view it is very advantageous to have a large and wide foreign market for American securities, thus leaving so much more "home" money free for investments, yet it must always be remembered that each year it may be necessary to ship gold from the United States to pay the interest on these securities and that eventually gold must be shipped to pay the securities themselves. Moreover, the amount of gold exported during the year that these securities are paid or

when at any time before they are due the foreign dealers decide to sell them, will nullify the good of a certain portion of the trade balance in our favor for that year.

If trade balances were dependent wholly on the exports and imports of raw material, merchandise, etc., it would be unnecessary for merchants and investors to independently tabulate monthly figures showing the balance of trade in addition to tabulating monthly figures on exports and imports. Owing, however, to these additional factors, caused by the sale of securities, payment of interest, etc., it is necessary to tabulate independently figures on "Trade Balances."

Certain merchants when tabulating figures on the balance of trade, which is the difference between the exports and imports, also tabulate figures showing the sum of the exports and imports or what is known as the "volume." This is wholly unnecessary when the imports and exports have been tabulated separately, but rather is of use simply as a short-cut to avoid the necessity of tabulating both imports and exports separately. *Therefore, figures on imports, exports and the Balance of Trade, when tabulated each month serve as a wonderful barometer for discerning present conditions and*

for forecasting future conditions. Moreover, any other figures are wholly superfluous.

Although the foreign trade statistics of other countries when properly compiled for comparative purposes are of interest to those studying the conditions of the United States, such figures are not conclusive in comparing the trade of two different countries. As there is no uniformity in the classification in the exports and imports of two different countries and as the methods of valuation are also entirely different, it is very dangerous to make comparisons between the various countries. This is discussed very clearly in an article on the "Comparatability of Trade Statistics of Various Countries" by Sir A. E. Bateman, C. M. G., published by the American Statistical Association, New Series "1893" Vol. 3, page 533.

The following conclusions are suggested relative to the "Balance and Volume of Trade."

(This is on the assumption that the balance is in favor of the country being studied. These figures have special values in judging the course of money rates.)

1. *During a Period of Business Depression*

(a) An increase signifies that money rates are to become lower.

(b) A decrease signifies the reverse.

(c) No change signifies that money rates will depend wholly on domestic demand.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase signifies that money rates may continue to be low.

(b) A decrease signifies the reverse.

(c) No change signifies that money rates will depend wholly on domestic conditions.

3. *During a Period of Prosperity.*

(a) An increase signifies that money rates should not become stringent.

(b) A decrease signifies higher money rates and a large decrease signifies the end of the period of prosperity.

(c) No change signifies nothing of importance.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies that lower money rates may be expected.

(b) A decrease signifies the reverse.

(c) No change signifies nothing of importance.

Gold Movements

"The natural movement of gold divides itself readily into four classes. There is in the first

place the primary movement from the mines to the distribution centers, London for the European markets and New York and Seattle for the United States. After that comes what might be called the first distributive movement where the gold arriving, for instance, at London, is sold to the highest bidder, often representing far off countries. A readjustment movement follows where gold, for instance, purchased by Paris in London is sent on to Switzerland, Italy, or Belgium or any other points. Lastly there is a constant flow of gold from one part of the world to another, the movement which is due to the ancient causes of supply and demand, of trade and other balances to be paid, and of bank reserves to be built up or released.

Whatever schemes of international gold certificates or of an international clearing house may be proposed by financial economists for the purpose of reducing the gold movement, there can never be any question as to the necessity of the primary movement from the mines to the distributive centers. Roughly speaking, the world's gold production originates in three great sections, South Africa, Australia and the United States. From the former comes almost half of the gold mined in the world each year, and

therefore bankers and merchants tabulate the monthly production of the Rand Mines.

The great distance of these localities from any important financial market and the fact that most of the stock of the South African and Australian gold mines is held in England, makes London the point to which the product of those mines is naturally sent, so that nearly one-half of the world's annual production of gold comes into the London market for distribution.

Arrivals of gold consigned to the London agents of the South African and Australian mines are fully advertised and what amounts to a regular auction is held every time a consignment arrives. The Bank of England is always ready (must be, by law) to purchase all gold of standard fineness offered to it, at 77 shillings 9 pence per troy ounce. But very rarely does the bank, or anyone else, secure bullion at this price. Usually the bidding of the representatives of the various banks puts the price well above that figure."

London is the one free gold bullion market of the world. As the metal arrives from the mines it is sold to the highest bidder without fear or favor. But this process must not be confused with the gold market maintained by the Bank of England. Usually the bank will sell gold

bars at a price, but sometimes it will not, and then the cry goes up that London is no longer a free gold market. As a matter of fact, the Bank of England is far from being a free gold market, but the open market is free and as long as there is any gold coming in the highest bidder gets it.

In this country on account of our entirely different currency law, there is no bullion market at all, free or otherwise, and the primary movement is direct from the mines to the assay offices, where a fixed and unvarying price is paid for it. In other words, all the gold produced in this country immediately passes into its circulation. There is no long trip to an open market, and then an apportionment to all parts of the world. The owner of the gold takes it to the nearest government assay office, where it is assayed and bought from him at so much per ounce. Afterwards if anyone needs gold bullion, for export or other purposes, he can obtain it at the treasury at a fixed price, as long as the supply holds out.

The very fact that there is a primary movement of gold from the Australian and South African mines to London, makes necessary the distributive move to the various markets whose representatives at the British capitol have been

successful in their bidding for this new supply. But even after that comes another movement, for the smaller markets are not directly represented in London, but must obtain the supplies of gold they need through their important correspondents.

These three movements carry the gold from the place where it is mined to the lesser banking centers, where its distribution is complete. But the movement of the metal by no means comes to an end with its distribution. There follows a fourth movement, dependent entirely upon financial conditions, the movement which will often result in the practical transfer of all or part of some firmly established gold supply to some distant market.

There are three prime influences which bring about such movements. The *first* is the necessity of making international payments for merchandise or securities at times when exchange is scarce; the *second* has to do with the maintenance or restoration of bank reserves which can at times be accomplished only by the outright purchase of gold in other countries; the *third* is due to international operations where bankers are anxious to transfer large balances from one point to another, and not finding exchange available in quantity, send gold instead.

From the very nature of these causes it will readily appear what a mistake it is to imagine that the development of our international financial relations will eventually make it necessary to ship gold at all. Only one of them, the first, could possibly be affected by the arrangement of a system of international credits. These large payments by one country to another, such, for instance, as the payment for the Panama Canal or the payment to us of the San Francisco fire indemnity, continually have to be made, and often under circumstances and at times when it is impossible that there should be a sufficient amount of exchange available. It is hard to see how, even if an international system of crediting and debiting should be arranged, payments of this kind could eventually be settled by remittances of gold or exchange, and as for gold shipments arranged for the building up or maintenance of bank reserves, it will appear that, as the bankers of different countries become more closely allied, the interchange of gold is greatly facilitated. Through various causes the gold reserve of the banks, particularly the great national banks of Europe, becomes depleted at times, and then these institutions are apt to call upon their foreign connections to send them the gold they need.

The other reason which makes gold, often apparently a settled reserve, move from one country to another is that in the highly developed state of the foreign exchange business, balances are continually being transferred to the points where they can be most advantageously used. As long as exchange on the point to which the transfer is to be made can be bought that will be the form of remittance. But where exchange cannot be had gold will be sent, and so it appears that the more balances transferred, the greater is apt to be the circulation of gold."

The importing of gold does not necessarily mean "good times" nor even "lower money rates" nor the exporting, the approach of a crisis; nevertheless important deductions may be made if monthly figures are systematically collected and tabulated thereon. These deductions have been summarized by Burton as follows:

"Every country will, under normal conditions, have a certain share of the gold or primary supply of the world. The different countries have been compared to reservoirs of water, of various sizes, connected by pipes. All the reservoirs will maintain the same level. The share of each country is determined primarily by its wealth. There is a tendency for metallic money, which is a form of wealth, to maintain in every country

a fixed proportion to other forms of wealth. But the share of each is affected by the volume of its trade and other incidental circumstances, among which are established methods of transacting business, the habits of its people, and, notably, its currency system. The currency system affects the gold supply. Paper money displaces gold, and causes it to be sent elsewhere in a less or greater proportion, according as it is absolutely based upon a deposit of gold, is redeemable in gold on presentation, or is not redeemable at all.

Methods of transacting business influence the supply. Where balances are largely settled at clearing houses, and checks generally employed, less currency and less gold are required. In this particular, the contrast betwen England and France is very marked. The latter country makes less use of clearing houses and checks and accordingly requires a larger supply of gold and silver, the latter metal being extensively used.

The habits of the people exercise an important influence. After the Franco-Prussian War it was found that the French peasant proprietors had hoarded large sums of gold. In the great emergency created, these amounts were brought out and assisted in the payment of the

indemnity. Frequently when native grandees in India die, it appears that they have been accumulating a great stock of gold, much of it in the form of ornaments, which for years has been kept out of circulation. All this hoarding tends to increase the demand on the gold which is in circulation as money. The peasant, or grandee who hoards, causes so much of the world's capital to lie idle. The benefit accruing in time of crisis or emergency to countries in which quantities of gold are withheld from general circulation, is obtained at the cost of diminished activity and volume of business under ordinary conditions.

M. Paul Le Roy-Beaulieu quotes figures to show that France in 1885, had a circulation of metallic money amounting to 215 francs per capita; England and the United States had, respectively, 86 and 68 francs per capita. Of course if the quantity of coin in circulation had been based upon per capita wealth at the time, England would have shown the largest quantity per capita, France next and the United States last.

There is then a normal share of gold which belongs to each country. If any country has more than its share, it will export. It is easy

to recognise that from a gold producing country, such as Australia, South Africa or Alaska, the greater part of the gold mined will be exported. Likewise, if gold is held in any one country, in such quantity that it can be invested elsewhere more advantageously, either in loans or in purchases, or can be sent abroad in payment of debts, it will be exported. If it is invested in loans abroad, it is an indication of surplus capital, and makes a favorable showing. If invested in purchases at low prices, it shows ability to draw upon other countries for an increasing share of objects of utility. If the purchases show that home prices are higher than foreign, and a supply of things usually obtained at home must be obtained abroad, the export of gold is a sign of danger. Thus an important question in determining the shipments of gold, is the nature of the purchases or investments to be made with it.

The specie exports and imports of this country have furnished distinct indications prior to each period of disturbance, but their significance cannot be understood without an examination not only of our general situation, but also of the particular situation at different times."

Of the various circumstances under which excess of exports of gold indicate the approach of a crisis, may be mentioned the following:

"*First,* when gold is required for purchases abroad which are made at high and rising prices. This indicates overaction and concurs with unusual increase in the prices of domestic supplies. Especially is this true, if in a time of rising prices, gold is exported for commodities usually supplied by domestic production. Such a condition cannot long continue without a reaction and an ensuing depression. The indications which are significant in connection with the imports of merchandise apply to the exports of gold. On the other hand, the export of gold for purchases, when prices are low, is not an unfavorable condition. It indicates purchases upon advantageous terms.

Second, when the export of gold is attended by a scarcity of money and a marked increase in the rate of discount, it is a decidedly unfavorable indication. This is of the same kind as those indications noticed in the conditions of banks. A steady increase in the rate of discount, or a decrease in the supply of gold, is a sure precursor of a crisis. The only question is how long this condition can continue without a crash.

Third, an unusual balance of exports of gold, not explained by surplus production, continued for a considerable time, or a sudden withdrawal

of large amounts is one of the most unfavorable conditions. It is to be noted that there is an exceptional sensitiveness in financial centres on the subject of gold exports, and sometimes an entirely normal export is interpreted as meaning instability and destroys confidence when there is no need for distrust.

It should be added that, when for a succession of years gold is withdrawn from circulation by reason of the substitution of inconvertible paper as money, the conditions which exist are sure to vary from normal lines. Credit will rest upon a false basis and the inevitable tendency will be towards an increase in the quantity of paper money outstanding and a dangerous expansion of credit.

In many respects the phenomena of a balance of gold exports are similar to those arising from a balance of merchandise imports. The two are expected to appear contemporaneously, but in essential particulars they are different. Some differences depend upon the question of gold production.

In countries like South Africa and a portion of Australia, where gold mining is the leading industry, gold exports are naturally classed with merchandise exports, and an export is a favorable indication. In non-producing countries like

England and France, where gold is in demand principally as money, imports are a favorable indication. There is another difference in a noticeable tendency towards contemporaneous decline in gold reserves in all the great financial centres. That which is lost in one country is not gained in another. This decline is explained by the withdrawal of considerable amounts to be hoarded or retained in circulation outside of the banks, and to some extent to the transfer of gold to the countries outside of the most advanced industrial and commercial circle. The influences which cause gold to be hoarded or retained in circulation outside of the banks are not unlike those which affect the circulation of paper money. International credits or payments frequently cause an excess of gold imports in a country to coincide with an excess of imports of merchandise. Again, a large demand for money, manifesting itself in high rates of interest, may cause gold to be retained in a country contemporaneously with an unusual balance of imports." Therefore bankers and merchants systematically collect and tabulate monthly figures on "Gold Movements."

The following conclusions are suggested relative to "Gold Movements":

Large or long continued gold exports are always unfavorable signs and gold imports are always favorable signs. The following suggestions refer especially to exports.

1. *During a Period of Business Depression.*

(a) An increase always calls for caution, as it forecasts an increase in money rates and possibly the calling of loans.

(b) A decrease is always favorable, as it forecasts lower money rates.

(c) No change is dangerous or favorable according to whether gold is being exported or imported.

2. *During a Period of Improvement Following A Period of Depression.*

(a) An increase always calls for caution as it forecasts an increase in money rates and possibly the calling of loans.

(b) A decrease is always favorable, as it forecasts lower money rates.

(c) No change is dangerous or favorable, according to whether gold is being exported or imported.

3. *During a Period of Prosperity.*

(a) An increase is especially dangerous and if continued over a long period often foretells the end of the period of prosperity.

(b) A decrease is always more favorable than an increase, but any exportation of gold should be considered as unfavorable.

(c) The same reasoning applies to "no change."

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase is still dangerous after the turn and if continued may precipitate a panic.

(b) A decrease is the normal result of a decrease in activity.

(c) No change is dangerous or favorable according to whether gold is being exported or imported.

Foreign Money Rates & Foreign Exchange

These two subjects are usually discussed together, first because they are co-related and second, because the subject of foreign money rates of itself is not sufficiently important to be treated independently. All that need be said as regards foreign money rates is that money, like water, seeks its own level, unless artificially held or forced. Therefore, if money rates are low in the United States, but for some time have been high in England, Germany or France, money rates in the United States are sure to soon increase, the increase to be followed possibly

by a period of stringency. There are two reasons for this: first, the loans to American bankers, by foreign bankers will be called for payment, or else the foreign rate will so be raised that it will be more profitable for the Americans to borrow at home; and second, foreign bankers will begin to borrow from America and thus take advantage of the lower American rates. As both of these causes are in operation at the same time, the rates very soon equalize; the foreign rates declining and the American rates increasing. The converse of this principle is also true. When the money rates in America are high, but the foreign rates have been low for some months, the tendency is for the American rates to decline and the foreign rates to increase.

When tabulating foreign rates, investors and merchants consider only the "rate of discount" of the three leading foreign banks; namely, the Bank of England, the Bank of France and the Bank of Germany. The tabulation and the interpretation of these rates is very simple, especially as the three rates are usually added and averaged, thus necessitating the use of only one table. The American merchant always keeps in mind, however, that low foreign money rates

have their disadvantages as well as their advantages, as very often they signify a low condition of foreign trade which, during certain periods, may be spread to America.

The changes in the Bank of England rate in recent years have been as follows:

Jan.	14, 1909	3	Apr.	25, 1907	4	Mar.	9, 1905	2½	June	13, 1901	3
May	28, 1908	2½	Apr.	11, 1907	4½	Apr.	21, 1904	3	June	6, 1901	3½
Mar.	19, 1908	3	Jan.	17, 1907	5	Apr.	14, 1904	3½	Feb.	21, 1901	4½
Mar.	5, 1908	3½	Oct.	19, 1906	6	Sept.	3, 1903	4	Feb.	7, 1901	4½
Jan.	23, 1908	4	Oct.	11, 1906	5	June	18, 1903	3	Jan.	3, 1901	5
Jan.	16, 1908	5	Sept.	13, 1906	4	May	24, 1903	3½	July	19, 1900	4
Jan.	2, 1908	6	June	21, 1906	3½	Oct.	31, 1902	4	June	14, 1900	3
Nov.	7, 1907	7	May	3, 1906	4	Oct.	2, 1902	4	May	24, 1900	3½
Nov.	4, 1907	6	Apr.	5, 1905	3½	Feb.	3, 1902	3	Jan.	25, 1900	4
Oct.	31, 1907	5½	Sept.	28, 1905	4	Jan.	23, 1902	3½	Jan.	18, 1900	4½
Aug.	15, 1907	4½	Sept.	7, 1905	3						

Referring again to the figures, foreign money rates, as affecting American money rates through the transferring of gold, are affected only by the purchase and sale of foreign exchange. Therefore, although merchants usually study only foreign money rates with their common knowledge of foreign exchange, yet theoretically, a study of foreign exchange will in itself suffice.

Foreign is quoted both as to "actual rates" and as to "quoted rates" and for a general description of the subject we quote Howard Irving Smith as follows:

"The quotation 'actual rate' means the rate at which exchange is sold in large amount by the dealer; the quotation 'posted rate' means the

preliminary asking rate of the day before an actual rate is made and this is the rate usually exacted for a small amount of exchange by a dealer. The actual and posted rates are the rates at which dealers sell bills of exchange issued by themselves. They do not, as a rule, announce the rates at which they will buy commercial bills of exchange; that is a matter of negotiation and depends on the nature of the bills. The newspapers, however, publish approximate prices for commercial bills.

Foreign exchange is payable in the money of the country upon which the exchange is drawn, that is, where the exchange is payable. The equivalent of $1.00 in English money is 49.3 pence or four shillings 1.3 pence. When foreign exchange is quoted in the money of the country where it is bought, the unit of the money of the country where payable is figured at so much money of the country where the bill is issued. Thus, when sterling exchange is quoted at $4.8665, £1 in exchange is worth $4.8665.

When foreign exchange is quoted in money of the country where it is payable (not where it is bought) the unit of money of the country where it is bought is figured at so much in

the money of the country where the bill is payable. Thus, when exchange on France is quoted at 18 (5 francs, 18 centimes) $1.00 in exchange is worth 5.18 francs.

When a bill of exchange is quoted in the money of the country in which it is issued, but is payable (is to be paid) in the money of the country upon which it is drawn (where it is payable), the higher the quotation, or rate, the higher is the cost of such exchange for the reason that a high rate requires more of the money of the country where the bill is purchased to buy a given amount of the money of the country where the bill is payable than a low rate requires.

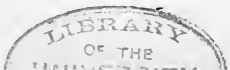
On the other hand, when a bill of exchange is quoted in the money of the country upon which it is drawn (which is also the money in which it is to be paid) as francs, the higher the quotation the less the cost of such exchange for the reason that more (in the foreign country's money) can be purchased for $1.00 at a high rate than can be purchased at a low rate.

Illustration: If exchange for £1 is purchased for $4.89 it costs more than if purchased at $4.84. On the other hand, if exchange for 25 francs (5 francs, 25 centimes) is purchased

for $1.00 it costs less than if $1.00 is paid for 511 francs; or, putting it the other way, $1.00 buys more in francs at the high rate than it does at the low rate.

The amount paid for a time bill depends on the length of time it is to run and the rate of interest prevailing in the country where the bill is payable. A commercial bill payable in London three months after date, is bought by a dealer in exchange in New York at a price which is equal to a bill payable on demand, less than three months' interest at the existing rate of interest in London. The London rate of interest serves as the basis in calculating the price of the bill for the reason that the bill is payable in London and to make it equal to a draft payable on demand it must be discounted in London.

High cost for exchange ordinarily means that the international balance is against the country where the high cost prevails; conversely, low cost for exchange ordinarily means that the international balance is in favor of the country where the low cost prevails." *However, as all of this may be ascertained by a study of foreign money rates, it is unnecessary for the merchant to collect or tabulate figures on foreign exchange.*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"The fact is that, so far from financial panics being confined to the United States in 1907, a really formidable credit crisis occurred that year in at least four foreign cities situated in four separate continents; two of these markets being wholly unconnected in a financial way with the United States; and the financial collapse occurring in two of them before, the panic broke out in our country in October 1907. As early as May, 1907, bank failures, hoarding of money and very general suspension of credit facilities were witnessed in Egypt, and London was hurrying along emergency shipments of gold to Alexandria, exactly as it hurried along the gold shipments to New York about six months later. At nearly the same time, bank failures and panicky conditions on the markets were happening in Japan. In almost every week of our own October crisis, and on yet another continent, the powerful Banco Mobiliario of Valpariso suspended payments, credit came to a halt in Chile, the currency sank to a low level of depreciation, and the Chilian Government was forced to take measures of relief. Again almost simultaneously with our own crisis, panic broke out in Hamburg, Germany, carrying down two great commercial houses and leading financial experts on the spot to pronounce the crisis the worst Hamburg had witnessed since 1857.

I hardly need add to this list such other minor crises as the temporary breakdown in credit in Genoa in the middle of 1907 and the panic at Copenhagen, a few months after our own, which compelled the Danish Government to come to the rescue by guaranteeing the assets of banks then subject to a run by depositors. What this part of the history of 1907 conclusively proves is that financiers and historians must look elsewhere than to American legislation and American banking for the cause of that year's panic. European economic experts have not found it difficult to assign the cause; it was indeed pointed out by the eminent Paris economist, M. Leroy Beaulieu, even before the panic came.

That cause was the exhaustion, in a violent world-wide industrial expansion and an even more world-wide speculation, of the world's accruing capital resources, and a consequent strain on credit which, throughout the financial world, approached the breaking point.

With such a tension in the international chain of credit, the break was bound to come, either where the link was weakest or where the strain was greatest. The link was weakest in Chile and Egypt while the strain was incalculably the greatest in the United States, where

speculation of an unheard of rashness and magnitude had been raging for two years, although had foreign conditions been sound, the break would not have then occurred in the United States. The severity of the shock in all these localities, and the world-wide liquidation and reaction, in both finance and commerce which have followed and which still prevail, in Europe, Asia, Africa and South America, as well as in this country, were the logical and inevitable outcome." Therefore the necessity of studying foreign conditions and not simply conditions in only one country, is apparent.

The following conclusions are suggested relative to " Foreign Money Rates."

These figures are also of special value in judging the course of domestic rates.

1. *During a Period of Business Depression.*

(a) An increase in foreign money rates signifies that conditions are becoming disturbed abroad, that foreign rates are increasing; and as foreign bankers will either mark up or call the loans which they hold of American firms, this will increase the home demand for money and domestic rates will strengthen.

(b) A decrease signifies the reverse.

(c) No change means normal conditions.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase in foreign money rates or in foreign exchange usually forecasts higher domestic money rates.

(b) A decrease signifies the reverse, providing all other factors remain the same.

(c) No change means normal conditions.

3. *During a Period of Prosperity.*

(a) An increase in money rates or in foreign exchange usually forecasts higher domestic rates.

(b) A decrease signifies the reverse, providing all other factors remain constant.

(c) No change means normal conditions.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase in foreign money rates or in foreign exchange usually forecasts higher domestic money rates.

(b) A decrease signifies the reverse, providing all other factors remain constant.

(c) No change means normal conditions.

Political Factors

Some of the most successful merchants of the old school always maintained that the three greatest factors which influence business conditions are crops, money and politics, and that

of these the most important is the last named, politics. Certainly this statement seems justified by a study of the story of business conditions of the United States. And that portion of American history with which these pages are most concerned, from 1860 up to the present time, is most admirably described by Alex. Dana Noyes in his " Thirty Years of American Finance."

There has always been a most delicate relation between politics and the state of trade. Almost every period of depression and period of prosperity, although not wholly due to political conditions, has been greatly augmented by them. Among those various political factors may be mentioned the following:—

The " Embargo act " in the early part of the century.

The war of 1812.

The establishment of the United States Bank.

The discontinuance of the United States Bank.

The beginning of " state rights " discussions.

The slavery discussion.

The Civil War.

The " Reconstruction acts."

The inflation of the currency.

The " Resumption Act."

The silver coinage law.

The resumption of specie movements.

The circulation of silver certificates.

The radical measures under Pres. Arthur, followed by the panic of 1884.

Campaign and election of the Republican Party in 1888, coincident with the period of prosperity.

The silver purchase act and the great gold exportations followed by the panic of 1893.

The tariff legislation of the '90s followed by the prosperous conditions of 1900.

The various Bryan scares.

President Roosevelt's campaigns against the trusts.

Of all these various acts, the most dangerous were those affecting the currency and the tariff. Both of these are very sensitive questions. Any change in the money standard or banking system, especially if it disturbs either foreign or domestic confidence, is very destructive to the commercial prosperity of the country. Even when banking questions or the money standard are discussed in Congress, there seems to be an immediate division of interests between the producer or the manufacturer and the banker or investor. The legislation desired by the producer seems to be opposed by the investor

and vice versa. The reason for this is very evident, as anything which tends to make money easier to the producer, depreciates the value of money in the hands of the bankers and investors who possess it. On the other hand, legislation which strengthens the importance of the banker and investor, tends to handicap the producer and manufacturer.

Any legislation designed to reorganize the banking system of the United States on anything but a gold basis, as the banking systems of England and other countries are founded, always retards trade. Any legislation which gives any additional importance to gold is always greeted with approval by all classes of manufacturers, merchants and investors, except those holding Government bonds. All other legislation, especially that recognizing as a standard silver or anything other than gold, is always a dangerous sign, often causing bankers and investors to call loans and raise rates. Such conditions usually precede a general crisis.

As to the propriety of high or low duties on foreign goods, this is an open question and leading economists are found on both sides. Although nearly all bankers are in favor of protection, yet most economists, on whose advice the bankers depend regarding all other matters,

are almost without exception against protection; but whether high tariff for protection or low tariff for revenue only, is best for the country, the fact remains that whenever the subject is discussed and whenever there is to be a change in classifications or duties, this discussion and legislation has always affected business conditions. Moreover, although the adoption of certain tariff legislation has given a great impetus to prosperity, yet the previous discussion of the subject has always tended to disturb confidence, promote a feeling of uncertainty and seriously check business.

This is very well described by Henry Hall as follows:—

" In the United States the business world has become accustomed to the protective principle; and even the prospect of reduced duties has always chilled the spirit of enterprise, while the reality has always given a set back to business, sooner or later. On the other hand, enactment of protective tariff, in lieu of one for revenue only, has always proved exciting and has quickened into intense activity the looms, forges and machinery of the entire country.

The backward state of American industry prior to the Civil War is held to have been due in large measure to the relaxation of protection

under the tariff laws of 1842 and 1857. There can be no question, that the twenty or more tariff enactments from 1861, when the Morrill protective tariff went into operation, to 1872 when the system had been fairly adjusted to the requirements of home industry, aided materially in developing the mines, sustaining the factories against foreign competition, supplying the railroads with an immense and profitable traffic, and promoting the farming interests of every section of the States.

The lower duties of 1883 on many manufactures added to the force of other evil influences, which ended in the crisis of 1884. The crisis of 1893 rose in a distinct measure from the agitation in the then Democratic Congress for a tariff for revenue only, which eventuated in the Wilson bill. The prosperity which the States now enjoy must be attributed in a marked degree to the protective tariff, enacted under President McKinley.

All writers on crises agree in giving great weight to tariff changes. An investor should therefore at all times be fully informed with regard to such actual or possible revolutions in political control at Washington, as are likely to have a bearing on the tariff laws."

Therefore successful bankers, merchants and investors always carefully watch political conditions and if possible reduce them to a decimal or barometer index number.

The following conclusions are suggested relative to " Political Uncertainties."

(This assumes all political factors to be unfavorable and the best conditions to be when only routine business is being considered. However, there are times when certain political acts are distinctly favorable and then the reverse of the following conclusions should apply.)

1. *During a Period of Business Depression.*

(a) An increase in political agitation is always unsatisfactory.

(b) A decrease is always welcomed.

(c) No change is unfavorable or favorable according to whether or not any important measure is under consideration.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase in political agitation is always unsatisfactory.

(b) A decrease is always welcomed.

(c) No change is unfavorable or favorable according to whether or not any important measure is under consideration.

3. *During a Period of Prosperity.*

(a) An increase in political agitation is always unsatisfactory.

(b) A decrease is always welcomed.

(c) No change is unfavorable or favorable according to whether or not any important measure is under consideration. Of course, if some legislation is under discussion the enactment of which would greatly relieve the situation, then an " increase " would be distinctly favorable, and a decrease distinctly unfavorable.

4. *During a Period of Decline Following a Period of Depression.*

(a) Same as above.

(b) Same as above.

(c) Same as above

Production of Gold

As to the effect of the production of gold, there is a diversity of opinion. That it is a subject of great importance when a number of years are considered, is admitted by all; but many deny that it is of such importance when considering a period of only a few years. The theory that as the supply of gold, which is used as a standard of value and a meduim of exchange increases, it must reduce interest rates and increase prices of commodities, is actively combatted by many authorities. If there were no other possible causes at work affecting

interest rates and commodity prices, this theory might be taken more seriously; but even then it would be obliged to stand the test of experience.

The editor of the *Engineering and Mining Journal*, Mr. Walter R. Ingalls, claims to have shown by statistics and graphic diagrams, that there has been no correspondence between the fluctuations in the gold supply and those in prices. Going back to the time of the first notable modern increase in gold production, he shows that for some years, beginning with 1851, there was an apparent parallelism, but there was a drop in prices after the crisis of 1857 and then a recovery and increase until 1864, though the production of gold was then falling off. After that prices declined until 1870, while the gold supply fluctuated within narrow limits; but in 1871 prices started up again, with gold production declining. During the fall in prices after 1873, there was an upward turn in the production of gold and by a peculiar perversity, in view of this theory of cause and effect, it fell off again after 1879 as prices began to rise. The decline in gold production continued until 1883 when there was another upward turn followed by a continued increase until 1896. The out-put was then more than

double that of 1884 and the highest ever reached before that time; but during that period there was an almost continued decline in commodity prices, to contrast with the rise which took place, while the annual supply of new gold again doubled. This may not prove that the increased production of gold has had no effect upon its commercial value compared with the general mass of commodities, and consequently upon prices determined by its value as the standard of measurement and computation; but it does very conclusively refute the theory that the two things stand in the close relation of cause and effect. There is certainly no close correspondence between them from year to year and the inevitable inference is that much more potent causes, than the volume of gold in monetary use, are at work in determining the course of prices.

It is a question whether the demand for the use of gold as a basis of credit and exchange has not kept pace with the supply and prevented any absolute depreciation. Mr. Ingalls forcibly opposes the argument that the cost to capital and labor of producing gold has diminished and that available deposits are on the increase, with cheapening methods of extraction. In connection with the question of increased demand, he takes the increasing production

of pig iron as fairly representing the advance made in industries and trade generally and shows both by figures and graphic diagrams that its increase has been relatively greater than that of gold.

As to the general subject of gold, this has best been presented in a book entitled "The Story of Gold" by Professor E. S. Meade, while the theory that the rise in commodity prices is due to the increased production of the metal is well described in the book entitled "Gold Supply and Prosperity," edited by Byron W. Holt of New York City, who is generally recognised as one of the best informed men on this subject. Based upon the assumption that the output of gold is to increase for the next ten years at an average rate of not less than 5%, Mr. Holt makes the following fourteen conclusions:—

(1). That the value of gold will depreciate as the quantity increases, though not, perhaps, at the same ratio.

(2). That this depreciation will be measured by the rise in the average price level.

(3). That rising prices will soon lead again to rising and higher interest rates.

(4). That, because of high interest rates, the prices of bonds and most other long-time

obligations drawing *fixed* rates of interest, dividends or income will again decline to low levels.

(5). That, because of rising prices and high interest rates, the cost of materials and supplies will tend to decrease the net profits of all concerns the price of whose products or services either cannot be advanced at all or are not free to advance rapidly.

(6). That, because of rising prices, the net profits of all concerns that own their own sources of materials and supplies will tend to increase.

(7). That, because of rising prices of commodities, the market prices of all tangible property will tend to rise. This includes lands, forests, mines, buildings and improvements.

(8). That, becaue of rising prices of commodities and property, the prices of the stocks of corporations holding commodities or property will tend to advance.

(9). That, because of rising prices and, therefore, of cost of living, wages must, and will, tend to advance.

(10). That, because wages and salaries will not rise as much or as fast as will prices and the cost of living, there will be dissatisfaction and unrest among wage and salary earners.

(11). That, because of rising prices and property, there will be much speculation in commodities, stocks and real estate.

(12). That, because of the great profits that will result from speculation, honest industry will be discouraged and recklessness and extravagance will be encouraged.

(13). That, because rising prices will decrease the purchasing power of debts, and thus aid debtors at the expense of creditors, they will discourage saving and thrift.

(14). That, then, an increasing output of gold means rising prices, rising wages, high interest rates, the scaling of debts, speculation, unjust distribution of earnings and wealth and general dissatisfaction and discontent.

These conclusions seem to follow each other logically, though their close connection is not wholly evident. The first two conclusions, being the more fundamental and important, Mr. Holt discusses as follows:—

" It is almost inconceivable that an increasing supply and output of gold, the standard and measure of values, will not tend to raise prices.

It is not asserted that a slight increase in the supply will cause prices to advance. The natural course of prices, especially of manufactured goods, is downwards. To offset this

cheapening tendency, due to invention and improvement, an increase of perhaps 2% a year in the supply of gold may be necessary. To offset the growing demand for gold, due to industrial expansion, an increase of perhaps 1% more a year may be necessary.

An increase of perhaps 3% a year in the world's volume of gold, then, may be necessary to maintain stable prices. This being true a smaller increase than 3% will result in declining prices and a greater increase will result in advancing prices of commodities. An increase of 5% a year in the supply of gold then would cause prices to rise an average of 2% a year, and an increase of 8% in the supply of gold would cause prices to rise an average of 5% a year."

As to whether Mr. Holt or Mr. Ingalls, who is quoted at the beginning of this paper, is correct, the reader must decide for himself. It is very generally admitted that a sudden increase in the supply of gold at certain times does give impetus to business activity, results in the conception of new ventures and indirectly is accompanied by an advance in prices. This rising movement in prices of itself encourages speculation and the extension of credit to a dangerous degree. Large profits lead to waste and extravagance which conditions are followed

by a crisis and a period of depression. Therefore it seems reasonable to admit that the over-production of gold is one factor causing increased prices, indirectly affecting business conditions; but it seems illogical to point to the production of gold as *the only factor* or even as the *most important* factor causing increased prices. The increase in population, the destruction of natural resources, industrial combinations, labor unions, increased cost of agricultural land and many other factors tend to increase the prices of commodities, as much as the over-production of gold.

Nevertheless, "Gold Production" is an important subject and most careful bankers, manufacturers and merchants regularly tabulate the monthly production of the Rand mines.

The following conclusions are suggested relative to "Gold Production."

These figures have an immediate bearing on all money rates and a distant bearing upon the price of all commodities including money.

1. *During a Period of Business Depression.*

(a) A great increase tends at first to lower money rates, although the later effect may be the reverse.

(b) A great decrease tends to increase money rates.

(c) No change signifies that money rates will be determined wholly by outside conditions.

2. *During a Period of Improvement Following a Period of Depression.*

(a) A great increase tends at first to lower money rates, although the later effect may be the reverse.

(b) A great decrease tends to increase money rates.

(c) No change signifies that money rates will be determined wholly by outside conditions.

3. *During a Period of Prosperity.*

(a) A great increase tends at first to lower money rates, although the later effect may be the reverse.

(b) A great decrease tends to increase money rates.

(c) No change signifies that money rates will be determined wholly by outside conditions.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) A great increase tends to lower money rates, although the later effect may be the reverse.

(b) A great decrease tends to increase money rates.

(c) No change signifies that money rates will be determined wholly by outside conditions.

Commodity Prices

One cannot do better, when studying this subject than to refer to Hon. Theodore E. Burton's book entitled "Crises and Depressions" in which, among other things he states:—

"In the season of activity which precedes a crisis prices rise. This rise begins after the worst of the previous depression has been reached. Attention has already been called to the fact that the rise in prices is unequal in different commodities. Iron and steel in their various forms, as well as other commodities required for construction, and those which supply new demands for consumption, show the most striking increases. During a depression prices of these commodities fall first and most notably. The prices of other commodities do not fall so much or so early. In the preceding season of expansion they do not rise so much, and, in their rise as well as in their fall, they show, for the most part, only a remote effect of the activity or inactivity of the time.

As is well known it is the tendency of prices of iron and steel to reach and pass their maximum some time before the crisis occurs, though if the crisis be precipitated by an unexpected failure, the interval will be short

or the high prices may continue until the very outbreak of the crisis.*

In the United States, prior to the crisis of September 18, 1873, a low price level appeared in almost all grades of iron and steel in January 1871. This was followed by a rapid and almost unbroken rise, culminating in the months of October and November 1872. A maximum price of rolled bar iron, $118.72 at Philadelphia, was reached in October, 1872. The price fell, with slight fluctuations, to $80.64 in September 1873, the month of the crisis.

In the depression which followed the crisis of 1873, prices of a majority of the varieties of iron and steel were lowest in the latter part of the year 1878, though steel rails and standard sections of iron rails dropped to a minimum in the closing months of 1877. The month of November 1878 may, however, be selected as the turning point. At that date No. 1 anthracite foundry pig iron was only $16.50 per gross ton, less than one-third the price of September 1872.

*This is why the price of iron is tabulated each month —as a barometer for forecasting changes in general business; although—as will be seen from a chart in the earlier part of this book—commodity prices do not reach a minimum until one or two years after the stock market reaches its low point.

In the expansion which followed 1878, prices reached their maximum in the months of January, February and March, 1880; but the highest figures were maintained only for a very short time. Anthracite foundry pig-iron, which had fallen to $16.50 in November 1878, rose to $41.00 in February, 1880; rolled bar iron to $85.12 in the same month; steel rails to $85; cut nails to $5.25 in the months of February and March. After the month of March, 1880, there was a sharp decline. Although interrupted by numerous fluctuations, a steady decline began after the closing months of the year 1882, and continued until another minimum was reached in the summer of 1885. The crisis of May 1884, occurred in the midst of this downward movement and seems to have exerted but little influence upon the iron market. Anthracite foundry pig iron fell to $17.75 in the months of June, July and August of 1885 and then began to rise. Rolled bar iron fell to $40.30 in May of the same year, and then was quoted at $40.32 for the remaining months of the year. Steel rails fell to $26 in the month of April.

After the minimum point in 1885 there was an upward movement continuing until the early months of 1887, the months of February and

March of that year showing maximum prices in most varieties of iron and steel; this maximum was succeeded by a fall in the prices, which for most varieties reached a minimum in May and June 1889. This minimum was followed for a short time by rising prices, which reached a maximum in 1890. In the two decades after the maximum prices of 1880 the trend of prices differed from that in the preceding decade. Fluctuations were much more frequent and for nearly eighteen years the general tendency was downward, though interrupted by brief revivals in prices in the years 1882, 1886, 1887, 1890 and 1895. The rise in price which occurred in 1887 and other years proved to be greater than the increased demand would sustain. The general statement may be made that during this long period between 1880 and 1897, in fact until 1898, for there was only a slight rise in that year, and the average price of several forms were less than in 1897, the demand did not keep pace with the increasing supply, and improvements in production were constantly exerting their influence. The increase in price in the United States in 1887 was greater than in other countries. The reason for the difference may be found in the exceptional demands in the year 1887, for in that year occurred the most

extensive railway building and the greatest consumption of steel rails. There was an exceptional deficiency in the home supply. There was also a revival of general activity in this country, the effect of which was conspicuous. It should be further noted that the crisis of this decade was much less severe than that of 1873, and the downward movement succeeding it, though long continued, manifested less decline in prices.

After the high prices of 1890, there was a fall which continued until the month of July, 1897. This fall was more uniform than those after 1880 and 1887. It was interrupted only by a temporary revival beginning after April, 1895, and continuing until the latter part of the year. Beginning in July 1897 prices showed an upward tendency, but increases were slight until the beginning of 1899; then there was a very rapid rise until the latter part of the year, which continued with the exception of a very slight setback in 1903 to the depression of 1907-8.

In the examination of these price movements several marked tendencies appear:

(1). The interval between the date of the maximum prices and the succeeding crisis is longer in the later years. This interval continued for a few months prior to the crisis of

1825 and 1837, nearly a year prior to that of 1873, and several years prior to the crisis of 1884 and 1893. This longer interval may be explained by the greater ability to carry accumulated stocks in expectation of a rise, the larger influence of speculation, and the absorption whenever prices decline, of larger quantities by the market now existing.

These influences explain another tendency, viz:—

(2.) In later years fluctuations are more frequent. In the period after the downward price movement has commenced the market price breaks and then is restored again. It is evident that abundant capital for construction is waiting for investment and, even in case of a slight decline, purchases are large and tend to bring prices to the former level.

(3). Since 1873 the maximum price reached in each cycle tends to be less than that in the preceding cycle. This is due to invention, to the lower cost of manufacturing on a large scale, and improvements of transportation. This tendency to lower prices is a part of the progress of the time and an essential feature in each depression.

(4). The upward movement of prices continues for a much shorter time than the downward movement. The upward movement preceding the maximum of October and November

1872, continued for one year and nine months. The succeeding downward movement lasted until November 1878, or six years and one month. Then an upward movement continued until February, 1880, or one year and three months; the succeeding downward movement lasted approximately five and one half years, to the summer of 1885, to be followed by a rising movement interrupted in the United States in 1888 and 1889, of four and one-half years, or until January, 1890. It is to be noticed, however, that the rise in most grades of iron and steel for a year after the summer of 1885 was very slight. After January, 1890, the downward movement continued for seven and one half years to July 1897, when prices for a year were almost stationary, to be followed by rising prices, which continued until the end of 1899 or less than a year and a half.

(5). The rapid rise which precedes a maximum price rarely continues for more than a year. If we take anthracite and Bessemer pig iron as the best standard, it will be noticed that prior to the maximum price of anthracite, September 1872,prices rose from $37in January of that year; prior to the maximum of $41 in February 1880, prices had risen rapidly from $20.75 in August 1897, or for six months; prior to the maximum of

$19.90 in January 1890, there was a rise from $17 in May 1889, or for eight months; prior to the maximum of $25 for Bessemer pig iron in December 1899, there was a rapid rise from $11 in January of the same year, or for eleven months. In many respects the rise in 1899 was the most remarkable of all, because it had been considered by manufacturers in the preceding years that the equipment for production was sufficient to properly meet any increase of demand, and yet the rapid rise in that year was unprecedented. The great increase in the price of iron and steel in that year, with the steady increase in production after 1894, proves the more general use of these products for a greater variety of purposes and over an enlarged area."

For a general study of prices the merchant should select ten representative commodities such as wheat, corn, cotton, sugar, pig iron, pork, copper, wool, coffee and rubber and tabulate or plot the wholesale prices of these at regular intervals.

It will be noticed in studying general commodity prices that they do not fall materially after a year of panic, curtailment and depression; for this fact there are two explanations:

One of these attributes the persistence of prices on high levels to the continuous supply of gold, which is now being supplied at a rate of more than a million dollars a day. The other explanation finds the causes for the effect in question due to several different influences which have characterized the industrial and commercial world for fully a decade. It is well worth while setting over against the single item of gold supply these other factors as part of the dynamics which have helped to lift the great plane of values to the level where it has, with proper exceptions and limitations, persistently stood for the past several years.

There are three at least, if not four substantial reasons why prices have risen so rapidly since the opening of this century and have been maintained so stubbornly.

First. The first factor is the enormous increase in the world's purchasing power arising from the annual increment of values in the output of mines, agriculture, forests and other extractive industries. It is figured conservatively that in the past ten years there has been taken out of the earth and the waters of the United States alone a sum of natural values amounting to $90,000,000,000, as follows:

Mineral output (ten years) . . .	$14,000,000,000
Agricultural products (ten years)	60,000,000,000
Lumber products (ten years)	12,000,000,000
Grazing, fishing, etc., (ten years)	4,000,000,000
Total for decade in United States	90,000,000,000

Second. Another factor in maintaining high prices is the expansion in the geographical area of productive enterprise over new territories which during the last decade have for the first time been fairly incorporated into the world's market. Within this period nearly the whole of Siberia has been added to the world's trading area, through the enormous outlay required to build the Trans-Siberia Railroad. Every foot of this trans-continental thoroughfare was accompanied by the creation of new demand for commodities, new capital for development and by the manifestation of new power to purchase. What was done in Siberia in an extensive way has also been done in Japan, China, India, Egypt, Australia, Africa, South America, Mexico and Canada, since prices began their upward movement in 1897. The work of money, as well as the work of man and of his implements of production, has all

been earning an increasing income, which almost immediately manifests itself in an expanding demand upon the industrial nations for their output.

Third. Thirdly, the maintenance of high prices is probably due to the rise of the standard of living which a decade of increasing wealth has first produced, and then established with a resisting power that even in times of depression resists with a new force any recession in its newly gained advantages.

Fourth. Finally there is a fourth factor behind existing price levels in the forms of the wastes of wars and in the millions of misdirected capital which have helped to enhance the costs of profitable production. The power behind high prices is not the uplift of gold but rather the aspiration of man, whether seen in the individual's impulse to gain income or in large-scale production to control markets. Gold as a dynamic element has its part, but as a measure of value it is a gauge rather than a cause."

Therefore the price of commodities is one of the best of business barometers and all merchants and bankers systematically tabulate each month the "Index Number" compiled by Bradstreet or others, supplemented with figures on the price of iron per ton.

The following conclusions are suggested relative to "Commodity Prices."

1. *During a Period of Business Depression.*

(a) An increase in commodity prices during a period of depression, *after a period of low commodity prices*, signifies that the depression has come to an end; but such an increase must be preceded by a distinct decrease to be a favorable sign.

(b) A decrease in commodity prices is normal and until said decrease no permanent change for the better can be expected.

(c) No change is often unsatisfactory.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase following a decrease signifies that the period of improvement is progressing satisfactorily.

(b) A decrease also signifies that the period of improvement is progressing satisfactorily.

(c) No change signifies that caution should be used.

3. *During a Period of Prosperity.*

(a) A great increase in the commodity price is one of the signs of the end of this period.

(b) A decrease is very unusual and should be carefully investigated.

(c) No change signifies normal conditions.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase is not unusual as commodity prices usually continue to increase about one year after the decline in stocks takes place.

(b) A decrease signifies that the period of decline is progressing satisfactorily.

(c) No change is normal at the beginning of this period.

Crop Conditions

This subject now does not hold the same relative importance in the study of Fundamental Statistics, that it held when statistics on other topics were less carefully compiled. But since the full annual harvest of the grains and cotton is the one factor at the bottom of American business prosperity, the condition of the standing crops will always be interesting and valuable as a barometer. Of all subjects studied by the merchant and investor it is the only one which the Government attempts to forecast. Figures on banking conditions, labor conditions, imports and exports are accumulated by the Government and are valuable as a matter of history; but in none of these subjects is there any official attempt to forecast conditions or use the figures accumulated for forecasting purposes.

Not only does the Government publish a report on the amount and condition of the crops, in various stages from planting to the beginning of harvest, but it makes a prediction for the benefit of business interests of what the total crop is likely to be. It has been well proved that this forecast made by the Government is better than any forecast which at the present time can be made by any association of merchants or bankers independently.

For this reason the method of compiling and distributing these forecasts should be clearly understood and the following is a detailed explanation by Chas. C. Clarke, of the U. S. Bureau of Statistics.

"There are three divisions in the Bureau of Statistics of the Department of Agriculture : the Division of Domestic Crop Reports, the Division of Foreign Markets, and the Editorial Division and Library, each of which has a chief of division reporting directly to the Statistician.

Statistical information concerning crop production and live stock that is collected by the slow and exact methods of a census is generally not given to the public until after the crops enumerated are harvested and marketed and the immediate interest in it has passed away.

Prices of agricultural products are primarily governed by the law of supply and demand; therefore early information concerning the supply is of value to all. Those who produce and those who consume are vitally interested as well as the dealer who stands between them. The relations and mutual interests of agriculture, manufacture, and commerce demand that there should be published at brief intervals during the crop season reliable information on the condition, acreage, production, and value of the principal crops, by States and agricultural areas.

As commerce consists largely in an exchange of the products of agriculture and manufacture among their respective producers, commerce thrives as the farmer and the factory operative prosper. Some individuals, however, do not always regard the common welfare, and injurious commercial speculations occur when ignorance prevails concerning the condition of our crops and the true relations of supply and demand. At such times the farmer often does not obtain just prices, while the consumer derives no benefit and business is injuriously affected. The consequences of false reports concerning the condition, and prospective yield of the cotton crop alone may

be very injurious. If there were no adequate Government crop-reporting service, and by misleading reports speculators should depress the price a single cent per pound, the growers would lose $60,000,000 or more; if the prices were improperly increased, the manufacturers and allied interests would be affected to a proportionate degree. All interests therefore demand that the true condition of crops should be made known promptly, and harmful speculation discouraged.

It was to remedy these evils and to subserve and protect the interests above noted that Congress provided for issuing monthly crop reports. From an allotment of a few thousand dollars each year at first, the crop reporting service has been evolved, perfected, and enlarged into the Bureau of Statistics of this Department, and the total cost of such service from its institution down to date has been about three and a half million dollars. Thus for forty-five years the total cost of this service has been less than one-third of the amount required to take the last census of the United States; yet the consequent protection to the farmers alone has been of incalculable value.

The Bureau of Statistics issues each month detailed reports relating to agricultural conditions throughout the United States, the data upon which these facts are based being obtained through a special field service, a corps of State statistical agents, and through a large body of voluntary correspondents composed of the following classes: County correspondents, township correspondents, individual farmers, and special cotton correspondents.

The special field service is composed of seventeen traveling agents, each assigned to report for a given group of States. They are especially qualified by statistical training and practical knowledge of crops. They systematically travel over the districts assigned to them, carefully note the development of each crop, keep in touch with best informed opinion, and render written and telegraphic reports monthly and at such other times as required.

There are forty-five State statistical agents, each located in a different State. Each of these reports for his State as a whole, and maintains a corps of correspondents entirely independent of those reporting directly to the Department at Washington. These State statistical correspondents report each month directly to the

State agent on schedules furnished him. These reports are then tabulated and weighted according to the relative product or area of the given crop in each county represented, and are summarized by the State agent, who coordinates and analyzes them in the light of his knowledge of conditions derived from personal observation and other sources, and prepares his monthly and other written and telegraphic reports to the department.

There are approximately 2,800 counties of agricultural importance in the United States. In each of these counties the Department has a principal county correspondent who maintains an organization of several assistants. These county correspondents are selected with special reference to their qualifications and constitute an efficient branch of the crop-reporting service. They make the county the geographical unit of their reports, and after obtaining data each month from their assistants and supplementing these with information obtained from their own observation and knowledge, report directly to the Department of Washington.

In the townships and voting precincts of the United States in which farming operations are extensively carried on the Department has

township correspondents who make the township or precinct the geographical basis of reports, which they also send directly to the Bureau of Statistics each month.

Finally, at the end of the growing season a large number of individual farmers and planters report on the results of their own individual farming operations during the year; and valuable data are also secured from 30,000 mills and elevators.

With regard to cotton, all the information secured from the foregoing sources is supplemented by that furnished by special cotton correspondents, embracing a large number of persons intimately concerned in the cotton industry, and, in addition, inquiries in relation to acreage and yield per acre of cotton are addressed to the list of cotton ginners through the courtesy of the Bureau of the Census.

Eleven monthly reports on the principal crops are received yearly from each of the special field agents, county correspondents, State statistical agents, and township correspondents, and one report relating to the acreage and production of general crops is received during the year from individual farmers.

Six special cotton reports are received during the growing season from the special field

agents, from the county correspondents, from the State statistical agents, and from township correspondents, and the first and last of these report relating to the acreage and pro-individual farmers, special correspondents, and cotton ginners.

The general reports for January and February are combined on one schedule and relate to the number and value of farm animals.

The general report for March relates to the stock of grain in farmers' hands, the distribution and consumption of corn, wheat, and oats, and the average weight per bushel of wheat and oats.

Reports on the condition of the crops of the year begin with the April report, when the condition of winter wheat and rye is dealt with, prevailing diseases of farm animals, and losses from disease and exposure.

The report for May comes at a time when few of the crops are sufficiently advanced for their condition to be reported upon; consequently the inquiries relative to condition apply only to winter wheat, rye, meadow mowing lands, and spring pasture. This schedule also deals with the portion, if any, of the original acreage sown to winter wheat for any reason has been or will be abandoned, and

contains inquiries with regard to farm labor and tenants.

The schedule for June deals with the acerage of six crops, the most important of which is spring wheat. It also covers the condition of wheat, oats, barley, rye, clover, spring pastures, apples, peaches, and rice.

The July schedule deals with the acreage of corn, potatoes, tobacco, and sugar cane; the stocks of wheat in farmers' hands; the average condition of all the principal crops, fruits, and spring pastures, and the average weight of wool per fleece.

The August schedule deals with the average yield of winter wheat per acre, acreage of buckwheat and hay, the condition of the principal crops, the quality of clover hay, and the stocks of oats in farmers' hands

The September schedule deals with the condition, when harvested of wheat, oats, barley and rye; the acreage of clover seed; the production of peaches, and the number and condition of stock hogs on hand for fattening.

The October schedule deals with the average yield per acre and the quality of spring wheat, barley, oats, rye and hops, and the condition of corn, potatoes, sugar cane, tobacco, rice and apples.

The November schedule deals with the average yield per acre of corn, buckwheat, potatoes, hay, tobacco and rice.

The December schedule deals with the production and farm prices of all the principal crops, and the acreage of winter wheat and rye sown for the crop of the following year, and also with the condition of winter wheat and rye.

In addition to the foregoing the reports during the past two years have been extended to include condition figures of many small fruits, vegetables and minor products. Information in regard to such products has been urgently requested, and as a basis for comparison has now been satisfactorily established the reports are received with interest and favorable comment.

Previous to the preparation and issuance of the Bureau's reports each month, the correspondents of the several classes send their reports separately and independently to the Department at Washington.

In order to prevent any possible access to reports which relate to speculative crops, and to render it absolutely impossible for premature information to be derived from them, all of the reports from the State statistical agents, as

well as those of the special field agents, are sent to the Secretary of Agriculture in specially prepared envelopes addressed in red ink with the letter "A" plainly marked on the ends. By an arrangement with the postal authorities these envelopes are delivered to the Secretary of Agriculture in sealed mail pouches. These pouches are opened only by the Secretary or Assistant Secretary, and the reports, with seals unbroken, are immediately placed in the safe in the Secretary's office, where they remain sealed until the morning of the day on which the reports are issued, when they are delivered to the Statistician by the Secretary or the Assistant Secretary. The combination for opening the safe in which such documents are kept is known only to the Secretary and the Assistant Secretary of Agriculture. Reports from special field agents and State statistical agents residing at points more than 500 miles from Washington are sent by telegraph, in cipher. Those in regard to speculative crops are addressed to the Secretary of Agriculture.

Reports from the State statistical agents and special field service in relation to non-speculative crops are sent in similar envelopes marked "B," which go to the Bureau of Statistics, and are

kept securely in a safe until the data contained in them are required by the Statistician in computing estimates regarding the crops to which they relate. The reports from the county correspondents, township correspondents and other voluntary agents are sent to the Chief of the Bureau of Statistics by mail in sealed envelopes.

The plan of intrusting the final preparation of reports to a crop-reporting board has been continued during the past year, and after two full years of trial it has been demonstrated that such is an excellent and satisfactory method. It relieves one man of the strain and responsibility, and secures the benefits of consultation and a consensus of judgment of men who have been on the ground.

The Crop Reporting Board is composed of the Chief of Bureau as chairman, and four other members, whose services are brought into requisition each crop-reporting day from among the statisticians and officials of the Bureau, and the special field and State statistical agents who are called to Washington for the purpose.

The personnel of the board is changed each month. The meetings are held in the office of the Statistician, which is kept locked

during sessions, no one being allowed to enter or leave the room or the Bureau, and all telephones being disconnected.

When the board has assembled reports and telegrams regarding speculative crops from State and field agents, which have been placed unopened in a safe in the office of the Secretary of Agriculture, are delivered by the Secretary, opened and tabulated; and the reports, by States, from the several classes of correspondents and agents relating to all crops dealt with are brought together in convenient parallel columns on final tabulation slips; the board is thus provided with several separate estimates covering each State and each separate crop, made independently by the respective classes of correspondents and agents of the Bureau, each reporting for a territory or geographical unit with which he is thoroughly familiar.

Abstracts of the weather condition reports in relation to the different crops, by States, are also prepared from the weekly bulletins of the Weather Bureau. With all these data before the board, each individual member computes independently, on a separate sheet or final computation slip, his own estimate of the acreage, condition, or yield of each crop,

or of the number, condition, etc., of farm animals for each State separately. These results are then compared and discussed by the board under the supervision of the chairman, and the final figures for each State are decided upon. It has been interesting to note how often the reports of the different classes of correspondents and agents are very nearly identical and how closely the figures arrived at independently by the individual members of the board agree. The estimates by States as finally determined by the board are weighted by the acreage figures for the respective States, the result for the United States being a true weighted average for each subject.

There have been eighteen meetings of the Crop Reporting Board during the past year, in most of which the personnel has been changed each month. Six special field agents, specialists in their respective lines of statistical and crop knowledge, and eight State statistical agents have served in the different board meetings. Many of these men are widely known throughout the United States, and the practice of having them take part in the preparation of the monthly crop reports and estimates has proved highly satisfactory, and has been a great factor in establishing the confidence

of the public generally throughout the country in the fairness and correctness of the Bureau's estimates.

Reports in relation to cotton, after being prepared by the Crop Reporting Board, and personally approved by the Secretary of Agriculture, are issued on the second or third day of each month during the growing season, and the reports relating to the principal farm crops and live stock are prepared and made public on the ninth or tenth day of each month. In order that the information contained in these reports may be made available simultaneously throughout the entire United States, they are handed, at an announced hour on report days, to all applicants and to the Western Union Telegraph Company and the Postal Telegraph Cable Company, who have branch offices in the Department of Agriculture, for transmission to the exchanges and to the press. These companies have reserved their lines at the designated time, and forward immediately the figures of most interest. A mimeograph or multigraph statement, also containing such estimates of condition or actual production, together with the corresponding estimates of former years for comparative purposes, is prepared and sent immediately to exchanges,

newspaper publications and individuals. The same afternoon printed cards containing the essential facts concerning the most important crops of the report are mailed to the 77,000 post-offices throughout the United States for public display, thus placing most valuable information within the farmer's immediate reach.

Promptly after the issuing of the report, it, together with other statistical information of value to the farmer and the country at large, is published in the *Crop Reporter*, an eight-page publication of the Bureau of Statistics, under the authority of the Secretary of Agriculture. An edition of over 120,000 copies is distributed to the correspondents and other interested parties throughout the United States each month. Thus the information is spread broadcast."

As the government crop statistics are necessary and valuable as business barometers, so figures showing the *production* of *all commodities* are of intense interest.

The production of iron, for example reported by the two leading weeklies on the subject, is a very important factor in determining present conditions and forecasting future conditions. This was especially true before the United States Steel Corporation was formed and to a

large extent is also true today. Figures regarding wheat, corn, cotton, iron, pork, copper, wool, coffee, rubber, sugar and other commodities are also of interest. A decrease in the production of commodities is always accompanied by a decrease in activity, which means that men and capital are idle. This reduced activity, if reduced beyond a certain point will result in a crisis followed by a period of depression.

This general principle, as especially applicable to the investor, is well presented by Mr. Henry Hall somewhat as follows:

A large part of the income of all railroad lines is derived from the shipment of grain, produce and cotton. From 6,000,000,000 to 15,000,000,000 tons of these articles are shipped by rail to seaboard cities every year, for exportation to other lands. A far larger tonnage is moved by rail from farm and plantation to cities and other settlements of the country for home consumption. The contribution to railroad traffic from this source always exceeds more than 30,000,000,000 tons of grain, 10,000,000,000 tons of flour, about 3,000,000,000 tons of cotton, and a vast additional quantity of potatoes, tobacco, fruit and other products

of the harvest. More than once, in our history, in dull times, has a loss in other earnings been made good by the transportation of agricultural produce; and in good times, bumper crops are of enormous and direct value to every railroad in the land.

The productions of the soil affect powerfully the prosperity of the United States in another way. Their money value in a good year is almost bewildering. The staple crops which are reported officially in its monthly statement of acreage and conditions approximate a money value of $3,500,000,000; and a fluctuation of $500,000,000 in this immense total, which is not uncommon, is felt at once in the business world. A boom in stocks has, more than once, originated in good crops. Depression has at times begun with a partial crop failure.

Bountiful harvests have another and interesting effect, in that the exportable surplus enables the United States to pay off its borrowing of money abroad and to create a credit, which, if large enough, insures early importations of gold. There is no topic more deserving of interested attention than the state of the crops. Another writer states:

"The country requires an increase in yield of at least 5% in all its principal crops, cotton

perhaps excepted; and in some cases an increase of at least 10% would be advisable, either through larger acreage or better cultivation. This would insure more reasonable prices for food products, thus reducing the cost of living about which so much just complaint is heard. It would also stimulate larger exports, the decline of which during the last year has been one of the most unfortunate accompaniments of our business depression. Larger exports of agricultural products would do more than anything else toward restoring the equilibrium of our foreign trade and would stimulate business at home."

The profits, and therefore the stocks of railroad companies which operate through the grain and cotton sections, are affected in the most direct and powerful manner by the promise of generous or stunted crops; and as they go, so goes the market. Investors need to keep in touch with the crop outlook. Wall Street always discounts the future and never waits for earnings to be affected actually before adjusting prices to what it sees coming.

A slackening of trade in the street after a great boom precedes every financial crisis; and every investor must be as alert to detect the signs of a coming change of importance as are

the bankers, rich men and stock operators, upon whom the fortunes of the stock market depend.

It is axiomatic that all railroads are affected directly and seriously by crop conditions, and industrial stocks peculiarly so. Therefore the subject of " Crops " is one which requires constant attention, and never more so than when a boom or a reaction has run on for a number of months, or years. *Conservative merchants and investors therefore tabulate each month when published the Government Estimate of the wheat, corn and cotton crops, then in the ground, together with the annuual figures when the crops have been harvested.*

The following conclusions are suggested relative to "Crops and other Commodities":

(The condition of the crops has direct bearing upon the condition of the farmer, and an indirect interest for every investor and merchant.)

1. *During a Period of Business Depression.*

(a) Improved crop conditions are often the beginning of a period of improvement.

(b) Poorer crop conditions delay an improvement in general business.

(c) No change is favorable or unfavorable according to whether this means good crops or otherwise.

2. *During a Period of Improvement Following a Period of Depression*

(a) Improved crop conditions always give an impetus to the general improvement in conditions.

(b) Poorer crop conditions always retard the improvement.

(c) No change is favorable or unfavorable according to what it represents.

3. *During a Period of Prosperity.*

(a) Improved crop conditions tend to lengthen the period of prosperity.

(b) Poor crop conditions tend to shorten said period.

(c) No change is favorable or unfavorable according to what it represents.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) Improved crop conditions tend to forestall a panic or delay "the day of reckoning."

(b) Poor crop conditions tend to hasten said time and perhaps cause a panic.

(c) No change is or is not of importance according to what it represents.

Railroad Earnings

Railroad earnings are of interest for two reasons: *first*, for forecasting the conditions of the railroads, upon which the prices of securities are directly dependent; *secondly*, for determining and forecasting the condition of general business.

Although stocks of roads barely earning their operating expenses and interest charges, are of some nominal value simply on account of their voting power (and this value is generally considered in the vicinity of about $10 per share, par value $100) yet railroad stocks as a rule are worth very little unless the road is earning money. But whether or not a stock pays a dividend, it is self-evident that the prices must vary as the earning power. Increased earnings forecast higher prices for the securities and reduced earnings forecast lower prices. Manipulation may temporarily force stocks far above or far below their true investment value, but neither high prices nor low prices can artificially be maintained for long. In the end the prices must adjust themselves according to earnings. As most investments are either directly or indirectly in the form of railroad securities, railroad earnings are of great importance to the investor.

For the purpose of forecasting general business conditions, these earnings are also of great interest. As statistics they are so important for this purpose that many merchants consider only bank clearings in addition to railroad earnings in making up a barometer of actual business conditions. There are several reasons for this choice, of which the two following are especially well founded:

(1). Because nearly all bills are paid in checks, bank clearings serve as a barometer of the total amount of sales; but railroad earnings likewise serve as a similar barometer, because practically all goods purchased or sold are shipped on the railroads. If the freight earnings of the United States show an increase, it is very evident that manufacturing and commerce is increasing; and the same is true conversely, if the freight earnings are decreasing. Therefore the earnings of the railroads may be considered in the same manner as the clearings of the banks.

(2). Another important reason is that not only are railroad conditions a barometer of trade conditions, but to a large extent they are the *basis* of general trade conditions. This is due to the fact that the railroads employ so

large a proportion of the working class population of the United States, and that so many industries are absolutely dependent on the railroads for their business. The railroads are the best purchasers of contractors' supplies and contract labor; of iron and steel for rails and bridges; of lumber, for ties and stations; of coal for motive power and heating; of oil for lighting and lubricating; of printer's supplies for time-tables, tickets, etc. etc. In fact this list might be indefinitely extended to show that the prosperity of the country is inseparably connected with the prosperity of the railroads.

Therefore, for the above two reasons, the wise investor and merchant very carefully watches railroad earnings, both for determining the present conditions and for forecasting future conditions. In this connection the history of railroad earnings during the past three depressions may be of interest. During the reaction of 1873 the high level of gross earnings was reached in the same calendar year as the panic itself, but the recession from this high point was fairly evenly spread over the next four years. The recovery, on the contrary, was strikingly rapid. In 1879, only two years after gross earnings had been at their worst, they made a new high record.

By reducing "maintenance charges" the net earnings increased for a year after the reaction began, the gain between 1873 and 1874 having been almost four per cent. Thereafter net earnings declined along with the gross, to their low level in 1877. In the following two years they recovered even more rapidly than gross earnings, making up most of their lost ground in one year. The reaction between the top and bottom levels in net earning was practically 10% but between the two years in which the gross receipts sank from top to bottom levels the difference in net was considerably less. Moreover this decrease was accompanied by an increase in mileage of nearly 12%.

While the panic of 1873 severely checked railroad construction, it by no means checked such development altogether. This crisis followed one of the most pronounced waves of railroad construction ever witnessed. In two years preceding the panic, operated mileage increased by 21,600 miles, or 48%, which of course is always a distinct danger signal.

The next depression of 1884-5 shows a difference from other depressions in relation of operating expenses to volume of business. Thus in 1894, the percentage decline in net

earnings was a trifle less than that of gross; but in the '80's the lessening volume of traffic was not accompanied by a proportionate reduction in earnings. The comparison of top and bottom levels in this depression follows:

	Mileage	Gross	Net
1883 ...	106,938	$807,112,780	$291,587,588
1885 ...	123,320	772,567,883	269,493,931
Decrease	*16,382	34,543,897	22,093,657
Per cent.	15.3	4.2	7.5

In so serious a crisis as that of the '90's the maximum reaction in railroad earnings was not more than 12%. However, aggregate figures covering so many railroads of such wide diversity of location and condition, tend to obscure the facts as they apply to individual undertakings. Constant addition of new mileage tends to reduce the record of damage sustained by the old roads. The reduction of the figure to a mileage basis would still be an inaccurate test because the earning power of new and additional mileage is naturally low. Furthermore, construction of new roads frequently takes away business from those roads already in existence, and thus tends to lower the average earnings per mile, without any actual decrease in the amount of business.

A comparison between fat and lean years could best be made by using figures for identical mileage.

Aggregate railroad earnings reached a new high level in 1893 and again acted as a distinct danger signal, for the crisis itself took place in the second half of that calendar year. The reaction in general business came the next year, when both gross and net immediately reached the low level of that movement. The recovery, though slow, was fairly continuous throughout five or six succeeding years. The extent of the reaction from the top level of 1893 to the bottom level of 1894 is shown in the following figures:

	Mileage	Gross	Net
1893	175,441	$1,207,106,626	$358,648,918
1894	178,054	1,066,943,358	317,757,399
Decrease	*2,613	140,163,268	40,891,519
Per cent	1.5	11.6	11.4
1907	222,635	2,603,757,503	833,339,600
1908	228,188	*2,378,000,000	

* Estimate of The Boston News Bureau.

The next high point was reached in 1907, when the aggregate mileage increased to 222,635, the aggregate gross to $2,602,757,503 and the aggregate net to $833,339,600. This gross and net fell off simultaneously with the decrease

in business, an aggregate total of about 9%, the low point having been reached in the latter part of the summer of 1908. Since that time there has been a gradual improvement.

It therefore is advisable for merchants and investors to select about ten large roads, operating in different parts of the country and systematically tabulate their gross earnings as published each month. As the final figures for all roads are published, they also are interesting to note; but for practical purposes it is much better to tabulate the earnings of only ten.

The following conclusions are suggested relative to "Railroad Earnings." (The tabulation of Railroad Earnings is of great value to the merchant; but the investor must remember that the stock market declines *before* earnings decline, and that prices begin to increase several months *before* earnings show any increase. Therefore this subject is not of as much practical value to the investor as to the merchant for forecasting purposes.)

1. *During a Period of Depression.*

(a) An increase signifies that conditions are improving.

(b) A decrease signifies "uncertainty."

(c) No change usually signifies that conditions are about to improve.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase signifies that the improvement in conditions is progressing satisfactorily.

(b) A decrease signifies that the improvement is temporarily checked.

(c) No change signifies nothing definite.

3. *During a Perid of Prosperity.*

(a) A great increase calls for caution.

(b) A decrease during a period of prosperity is very extraordinary and usually signifies that the corner has been turned and a reversal of conditions has already commenced.

(c) No change signifies that a period of decline may be expected to begin.

4. *During a Period of Depression Following a Period of Prosperity.*

(a) An increase signifies a temporary check in the decline.

(b) A decrease signifies that conditions are rapidly becoming worse.

(c) No change signifies nothing definite.

Special Note:—In using the above rules—as also is true in regard to the rules given under other subjects—one must compare with the corresponding month of the preceding year and not with the preceding month. In other words, the merchant and investor when study-

ing Fundamental Statistics or Business Barometers must not be misled by seasonable changes—which are wholly normal.

Idle Car Figures

Idle car figures have been available only for a short time and therefore investors and merchants have as yet given but little attention to this subject. Moreover they are of direct interest only in forecasting business conditions, as explained under the heading of "Railroad Earnings." In other words, idle car figures bear the same relation to railroad earnings, as the Government crop estimates bear to the total figures compiled after the crop has been gathered.

These idle car figures are collected by the American Railway Association which receives every two weeks from each railroad the number of their surplus cars or the number of the cars they are short, as the case may be. Of course no one railroad will report at any given time both a surplus and a shortage; but it is very natural for certain roads in certain localities to have a surplus; while other roads in an entirely different locality may report a shortage. All of these "surpluses" and "shortages" are combined and reported in a total by the Association once in two weeks.

As in the case of exports and imports it is the balance, namely the "net surplus" or "net shortage" that the investor or merchant watches with interest. It takes about six weeks for a car to be taken from the siding, looked over, loaded, delivered, unloaded and the revenue received. Then as the railroads do not publish the earnings of a car for about a month or more after they are received, it may be three months after a car is taken from the siding, before the earnings of that car appear in the monthly statement. Conversely, it is also true that when a car is returned to the siding, the effect of taking it out of service will not show in the published earnings for perhaps three months thereafter.

By tabulating idle car figures therefore their study enables the investor and merchant to forecast an increase in railroad earnings almost three months before it matures, and likewise to forecast a decrease in railroad earnings almost three months before it occurs. As railroad earnings are such an excellent barometer of trade conditions, idle car figures serve as a most valuable factor in forecasting mercantile conditions.

Note:—The American Railway Association divides its report into eleven divisions with a minimum of 155 roads located as follows:

	No. of roads
New England	8
N. Y. N. J., Md., & E. Pa.	22
Ohio, Ind., Mich., & W. Pa.	20
Va., W. Va., No. Car., & So. Car.	10
Ky., Tenn., Miss., Ala., Ga., & Fla.	19
Iowa, Ill., Wis., Minn. No. Dak.	27
Mont., Wyo., Neb., & So. Dak.	3
Kans., Colo., Okla., & I. T.	15
Ore., Idaho, Cal., Nev., & Ariz.	18
Canadian Lines	3
Total	155

The following conclusions are suggested relative to "Idle Car Figures."

(Idle car figures are of great value to both merchant and investor as they *forecast* earnings. When the actual earnings are published it is often too late for the investor to profit thereby as their effect has already been discounted. This, however does not apply to idle car figures.)

1. *During a Period of Business Depression.*

(a) An increase of idle cars signifies that conditions are not yet improving.

(b) A decrease signifies that a change for the better may be expected.

(c) No change signifies that caution is still necessary.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase in idle cars signifies that the improvement may be temporarily checked.

(b) A decrease signifies that the improvement is progressing very satisfactorily.

(c) No change signifies that caution is still necessary.

3. *During a Period of Prosperity.*

(a) An increase in idle cars signifies that a change for the worse may be expected at any time.

(b) A decrease signifies that prosperity may be expected to continue a while longer.

(c) No change signifies nothing unsatisfactory.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase signifies that conditions are daily becoming worse.

(b) A decrease signifies that a temporary check may be expected in the decline.

(c) If there is no change the figures need not be considered.

Religious and Social Conditions and Miscellaneous Statistics.

The condition of public opinion in the country as a whole, the stand taken by any large number of people, or representative body of people, with regard to social or religious questions,

exerts a constant influence upon business conditions. Not only in politics and the larger field of government as shown in election or municipal reforms, but in all religious or social movements, the feeling of the people should be watched closely. Most investors and merchants look upon crops, money and politics as the three most important topics to study in order to form a clear idea of the present state of business and a sound judgment of what is to be expected. They would also do well to look into the field of social and religious tendencies because they will find there material of great use in determining the trend of business.

From time immemorial, periods of prosperity have been accompanied by a decline in religious interests and by a laxness in moral and social customs. Conditions, religiously, socially and morally, are always at their worst immediately preceding a severe crisis or panic. The perils to a nation during a period of prosperity are much greater than the perils accompanying a period of depression. For this reason the social and commercial corruption which has followed the declaration of peace after great wars, has always been more disastrous to the conquering country than the actual war. This has been true during all history.

It was commercial and political corruption, rather than the Northern barbarians that destroyed ancient Rome and that ruined beautiful Venice. It was commercial and social corruption that transformed Spain from the foremost empire of the world to a third rate power, and likewise overturned the Bourbon empire in France. England itself would have come to a similar fate had it not been for the revival of righteousness which drove the corrupt men from power at the time of the East Indian troubles and at other periods of her history. The American Civil War was followed by great financial and social corruption and even General Grant, although himself incorruptible, could not save his country from the effect of greed and wrong doing.

The famous election which followed was noted for the frauds which characterized both parties and these frauds were so gigantic that to this day it is uncertain whether Tilton or Hayes was actually elected President of the United States. As is the case during all such periods of personal, commercial and civic corruption, this period was followed by the great business depression beginning about 1873.

Immediately following this depression a period of religious and civic revivals swept

over the nation. The additions to churches, the great temperance movement, and other similar movements for righteousness received an unprecedentedly great impetus during these years following the panic of 1873. This return to righteousness was again followed by a return of prosperity in the early '80's.

The nation, however, forgot from whence these blessings came and religious interest again declined. This lack of interest in religious matters culminated in the panic of 1884. Once more the reign of ungodliness was checked and the country recuperated from the depression of 1884, and again enjoyed several years of wonderful prosperity. It, however, took the nation only a few years to forget, and again civic corruption, social immorality and intemperance began to increase. From 1900 to 1903 religious and similar organizations showed very little growth. Consequently the era of prosperity began to wane, and culminated in the panic of 1893.

The panic of 1893 again brought people to think upon serious matters and during the following few years, there was a great revival of righteousness throughout America. In fact the additions to churches and the growth of other religious movements even exceeded that

during the period following the panic of 1873. The people again cast aside luxuries, municipal and state governments were purified, evil doers were replaced by men of high integrity and great interest in all religious and moral undertakings developed in all parts of the country.

People again lived in a decent and God-fearing manner in accordance with what their station permitted. Commercial houses forsook the careless and questionable methods used during good old times and the old fashioned " drummer " was replaced by the modern high grade salesman. It was on this foundation that the new period of improvement started and it was due to this revival of righteousness, that the country was able to enjoy many years of great prosperity which came simultaneously with the close of the Spanish War.

Unfortunately, however, the nation again forgot and was still unable to stand the temptations of a period of prosperity. Therefore again religious interest declined, political corruption re-opened and social immorality increased. Referring to these conditions in February 1909. Lyman A. Abbott states as follows:

"Popular rumor attributed to Mr. McKinley's managers, although not to him, wholesale corruption in securing his first nomination and his first election. This corruption has not been confined to any one locality or to any one party. It has been equally appalling in its dimensions in New York, Boston, Philadelphia, Cincinnati, Chicago, St. Louis, Minneapolis, Denver, and San Francisco. It has included not only Boards of Aldermen but Legislatures, and it has crept into both the administrative and legislative departments of the Federal Government. Two United States Senators and three United States Representatives have subjected themselves to criminal prosecution for participation in frauds. Nor has this corruption been confined to political circles. Insurance companies, banks, trust companies, manufacturers, trade unions have all been implicated. More than one financial magnate is now serving a sentence for fraud. Others are under sentence and are awaiting the decision on appeal. Even judges have not been wholly free from suspicion of obligation for their election to the plutocracy."

This is a description of the conditions from 1898 to 1906 when the exposures commenced. Like all preceding periods of unrighteousness,

this was followed by the panic of 1907, and the succeeding years of depression.

Of course some writers, although admitting that a business depression revives interest in religious matters and that during great prosperity, men do not have the time or inclination to give to such matters, they claim that the religious state of the nation does not offset the business conditions as .here represented Whether or not this is true we do not know,but certainly a study of the history of the United States and every other nation, seems to point to a definite relation between the two interests. Moreover all economists agree that the religious condition of the country is distinctly worthy of study,—although they may disagree as to its relative importance compared with other subjects.

Among those miscellaneous statistics which are tabulated by some bankers and merchants, may be mentioned the following:—

Statistics on Losses and Wastes.
Statistics on Changed Conditions.
Absorption of Capital.
Results of Invention.
Economics due to Improved Methods.
Statistics on Frauds and Lack of Credit.
The Abuse of Credit.

The Contraction of Circulating Mediums
Overproduction.
Psychological Tendencies.
Military Armament.
Income Taxes.
Excise and Internal Revenues.
Associated Charity Reports.

All of the above have some distant bearing either for diagnosing present conditions or for forecasting future conditions; but none are sufficient in themselves, and when studying any one, due weight must be given to all of the others. The figures on any one of these subjects are of value only in their realtion to the other figures which we have previously considered. *As however none of these subjects are of sufficent importance to the merchant or investor for him to collect and tabulate figures, no further thought need be given to them.*

The following conclusions are suggested relative to " Religious Conditions."

1. *During a Period of Business Depression.*

(a) An increase in righteousness signifies that conditions are improving.

(b) A decrease in righteousness signifies that conditions may become worse.

(c) No change signifies that there will be no immediate improvement.

2. *During a Period of Improvement Following a Period of Depression.*

(a) An increase in righteousness signifies that the improvement may be expected to continue.

(b) A decrease signifies that the improvement will halt.

(c) No change signifies that caution should be used.

3. *During a Period of Prosperity.*

(a) An increase in righteousness signifies that prosperity may be expected to continue.

(b) A decrease signifies that a change for the worse may be expected.

(c) No change is a normal state.

4. *During a Period of Decline Following a Period of Prosperity.*

(a) An increase tends to shorten the period of decline.

(b) A decrease tends to make the coming period of depression all the more severe.

(c) No change signifies the same.

Statistics showing increase in the membership of **Congregational Churches** in the United States by profession (This denomination is chosen owing to their complete reports but the same rule applies to all denominations.)

Year to July	No. of Churches	Add. Members by Profession	Total New Members		Additions by Profession per 100,000 Population
1860	2,585	7,468	14,821	Decline	2 Persons
1861	2,555	5,522	12,151	Depression ...	1 "
1862	2,580	6,196	12,629	"	1 "
1863	2,652	7,765	14,378	Prosperity ...	2 "
1864	2,667	9,032	15,809	Decline	3 "
1865	2,723	11,030	18,442	Depression ...	3 "
1866	2,780	11,249	19,994	Improvement	4 "
1867	2,810	19,127	30,210	"	5 "
1868	2,951	16,432	28,246	Prosperity ...	4 "
1869	3,043	15,167	27,373	" ...	4 "
1870	3,121	13,501	25,137	Decline	3 "
1871	3,202	13,271	23,343	"	3 "
1872	3,263	13,945	25,394	" ..	3 "
1873	3,325	13,216	24,620	" ...	2 "
1874	3,403	15,279	27,300	Depression ...	3 "
1875	3,437	17,306	29,645	" ...	4 "
1876	3,509	20,844	33,294	" ...	5 "
1877	3,564	24,138	35,111	" ..	5 "
1878	3,620	20,498	31,735	Improvement	4 "
1879	3,674	16,689	27,506	" ...	4 "
1880	3,745	12,230	22,749	Prosperity ...	2 "
1881	3,855	11,311	22,646	" ...	2 "
1882	3,936	13,539	25,895	Decline	2 "
1883	4,010	14,800	28,377	Depression ...	3 "
1884	4,092	17,923	32,055	" ...	3 "
1885	4,170	21,729	37,135	" ...	4 "
1886	4,477	27,166	43,185	Improvement	5 "
1887	4,404	41,156	67,530	" ...	7 "

1888	4,569	25,994	45,036	Prosperity ...4	Persons
1889	4,689	29,286	49,859	" ...4	"
1890	4,817	27,592	47,782	" ...4	"
1891	4,985	30,614	52,086	Decline ...5	"
1892	5,140	31,582	54,576	" ...5	"
1893	5,236	34,444	57,561	Depression ...5	"
1894	5,346	38,853	62,946	" ...6	"
1895	5,486	35,327	57,932	" ...6	"
1896	5,546	32,147	54,640	Improvement 5	"
1897	5,614	31,090	52,211	" ...4	"
1898	5,620	25,189	44,492	Prosperity ...3	"
1899	5,604	24,514	44,185	" ...3	"
1900	5,650	27,101	48,602	" ...3	"
1901	5,753	28,398	49,879	" ...3	"
1902	5,821	29,195	51,627	Decline 4	"
1903	5,900	29,403	51,521	Depression ...5	"
1904	5,919	30,193	53,198	Improvement 4	"
1905	5,931	34,881	57,722	Prosperity ...4	"
1906	5,923	32,890	56,543	" ...4	"
1907	5,989	34,642	59,346	Decline 4	"
1908	6,000*	38,000*	62,000*	Depression ...5	"

*Estimated

CHAPTER VII.

A TALK ON COPPERS

S seen in preceding chapters, the laws of trade and finance necessitate a fluctuation in the price of staple commodities. The *tendency* of the price of many commodities is upward. This is owing to several causes, among which may be mentioned the increased supply of gold, the increased price of labor and the increased consuming power of the people. There is a constant increase in demand which the increase in supply does not fully equal. When—however—this course of prices is represented graphically, it will be found that the lines will not be straight, but "zig-zag." Although each low point may not be as low as the preceding ones, and the general direction of prices may be upward; yet there is a continual fluctuation. A careful study will further show that these abrupt changes occur at intervals of every few years and are as certain to come as the summer and the winter.

(Many reasons to prove this latter statement may be offered, but we will confine ourselves to one: if any one commodity continued always to increase in price without the fluctuation above mentioned, the tendency would be for every one to enter the business of manufacturing, selling or investing in that one commodity.)

Of course there is a great difference in the fluctuations of different commodities and some commodities fluctuate more than others. It is, therefore, much more difficult to understand the laws affecting the fluctuation of the prices of some commodities than of others, especially enough to anticipate changes in their range. But it is possible to see the general trend of all prices taken as a group. As the general average price of all commodities fluctuates and the country passes from periods of prosperity to periods of depression and vice versa, so all the stocks on the New York Stock Exchange as a whole fluctuate.

The stock market generally anticipates a period of business prosperity or of business depression and, as we have shown, it is likewise possible for investors to *anticipate* such periods, provided they obtain and study the necessary statistics. Like the farmer, they must be first willing to purchase the seed and cast it freely over the

ground, before expecting to reap a harvest. The majority of investors have not patience enough to spend money in obtaining data and waiting, seeing no immediate results. There are also a great many people who, knowing that the market must be lower in a year or so, have not sufficient self-control to wait a year before investing a given amount of money. Money "burns in their pockets" and, as soon as they accumulate a certain amount, they seem determined to invest it, even though they know that by placing it in a bank on deposit they can then purchase the same security for one-third of the price. The same class of people have not sufficient self-control and energy necessary to sell said securities in times of great prosperity. To those, however, who are willing to spend the money in accumulating the necessary data and who have the self-control to act in accordance with their better judgment, the opportunities to make money are unlimited. Such persons can, moreover, confine themselves to absolute and outright cash purchases and also invest in only the most conservative stocks.

We cannot here study the application of the above theory to all classes of stocks. Therefore, as an illustration only one application

will be considered; namely, that of purchasing and selling high grade standard dividend paying Copper Stocks in accordance with the market price of copper. Instead of endeavoring to explain the details of the system as used in purchasing Steel Stocks, Cotton Mill Stocks, and other Securities, the point of the example is to show how it is accomplished with one single commodity such as Copper. There are two main requirements:—First: that one must keep in constant touch with business conditions, and secondly: that one must always keep informed of the best mines, realizing that the low points and the high points change from one year to another. Therefore it is impossible for a broker to give a rule such as—that Copper Stocks should be sold when the price of metal is above 24c and bought when the price of metal is below 14 cents, as one year 24 cents may be high and another year it may not be high. Moreover, the safest stocks today may not be those in which it was best to invest a few years ago. It therefore, is necessary to obtain data on these points from some central agency operated for the purpose. The press cannot be relied upon for this information, for reasons that can be readily understood. It is impossible for the press to always state the facts, *especially when the outlook is unfavorable.*

The general method of procedure is as follows:—One can best obtain an idea as to whether the present price is low or high by a study of such business barometers and fundamental statistics. Tables showing the high and low prices of the metal over a long period of years should of course also be studied; but these figures are not nearly so important as general figures on " Clearings," " Failures," " Foreign Trade," etc., by which the movement in the price of metal may be forecasted. *The price of the metal bears the same relation to Copper stocks as railroad earnings bear to railroad stocks. After the price of the metal publicly changes, it is too late to trade in the stock. In order to successfully trade in the stock, one must forecast changes in the price of the metal. This can be done only by a study of Fundamental Statistics on general business conditions.*

The next difficulty comes in selecting a list of mines in which to invest. The following table gives a list of fifteen dividend paying copper mines and what we believe to be their maximum rate of dividend. This is based on copper at 24 cents a pound; the table shows also what the companies would theoretically earn with copper at 18 cents a pound and under. These figures are not exact as they are based on the assumption

that the cost per pound will be constant, whatever the output, when in reality the smaller the output, the greater the cost per pound.* These figures therefore may be taken as maximum figures throughout.

	Maximum Div. Rate	18c	17c	16c	15c	14c
Cal. & Hec.	$80	$98.53	$88.42	$78.32	$68.21	$58.10
Cal. & Ari.	20	23.42	21.05	19.67	17.70	15.92
Wolverine	20	18.56	16.94	15.33	13.71	12.10
Granby	12	14.23	12.77	11.31	9.85	8.39
Osceola	14	15.46	13.53	11.60	9.67	7.74
Amalgamated	8	12.37	10.92	9.46	8.01	6.55
Utah Con.	6	8.03	7.41	6.79	6.17	5.56
No. Butte	8	8.63	7.81	6.98	6.16	5.34
Quincy	18	12.09	10.36	8.64	6.91	5.18
Cop. Range	8	7.60	6.75	5.91	5.07	4.23
Mohawk	10	6.99	6.05	5.12	4.18	3.25
Anaconda	7	6.33	5.54	4.75	3.95	3.17
Butte Coal	2	2.00	1.75	1.50	1.25	1.00
Shannon	2	2.00	1.59	1.20	.80	.40
Tamarack	8	9.33	7.00	4.66	2.33	.00

Such tables are compiled by taking the present output of the mine and its net cost per pound† of the ore mined. The investor then

*This is not absolutely true as the price of labor generally decreases as the output decreases.

†Consider the present cost, for instance, to Amalgamated is 10 cents; to Anaconda 12 cents; to Calumet & Arizona 7 cents; to North Butte 9 cents.

deducts this cost per pound from the selling price given in the table and ascertains the profit per pound. He then multiplies the profit per pound by the output and divides by the number of shares outstanding. There is another factor, which enters; namely, that as the price declines, the production decreases. Therefore with a price of 14c probably only three-fifths as much copper is mined as at a price of 24c, and therefore the figures on the above table should be correspondingly cut down. From the Babson System's cards the output of each mine can be obtained without difficulty, and one can at any time ascertain the relation of the actual output to the maximum output and reduce the figures in the above table accordingly. In a broad way, the high cost producing mine suffers relatively the most by a decline in the metal market although, of course, in the matter of a loss in share earnings, the capitalization must also be taken into account. For instance, take two extremes Company No. 1 and Company No. 2. The former has 300,000 shares and makes its Copper for 4.1 cents per pound.

The latter has only 60,000 shares and makes its Copper for 14 cents per pound. With the price of the metal at 15 cents instead of 26 cents, the profits of the first company would be cut in half, or from $13.46 per share to $6.68; while the second's share profits would be only one-sixth what they would be at 26 cents and would drop from $34.00 to $5.33. A fluctuation of one cent in the price of copper means a difference of 62 cents per share in the profits of No. 1 and a difference of $2.33 per share to No. 2. In the same manner a one-cent drop in Copper shrinks the profits of Anaconda about 83 cents per share, Copper Range about 85 cents, North Butte and Amalgamated about $1.35. Of course after reaching this point it is possible to go a step further by ascertaining the per cent. earned on the selling price, as well as the per-cent. earned on the par value which is ascertained by the above method.

The above reasoning results in the following rules for practical investing:

1. Make a list of the standard dividend paying stocks of companies which issue complete reports.

2. Star on said list the names of such companies as are doing a sufficient amount of de-

velopment work and which have ore blocked out for a long period of years.

3. Select the stock from among those which are starred that, *with copper at a low price*, will show the greatest percent earned on the selling price of the stock. The result of such analysis clearly shows which is the best single stock to purchase. If there are four or five which figure approximately the same, it is best for an investor to divide his money among these several.

It should be remembered that when ascertaining the cost of production, three factors must be considered:

1. The pounds of copper per ton of rock crushed.

2. The cost of supplies, labor, etc., including taxes and all fixed charges.

3. The money spent on development, machinery, etc.

The first factor is the most important for *comparison purposes*, and tables following give a list of the leading mines with the *average tons of rock stamped daily, the pounds of copper per ton of rock, and the percentage of copper.*

The second factor is more or less constant with each mine; but the third factor is very different with different mines. This third

factor is important, but it is difficult to obtain satisfactory information excepting for the more conservative properties.

After obtaining this data, the secret of successful investing depends simply upon purchasing these stocks when Business Barometers show general business to be in a *period of depression*, with copper at less than what it costs the average mine to produce it, and to keep these stocks for a few years, until such time as Business Barometers show the country to be in a period of great prosperity--but that a change in conditions is at hand—when the stocks should be sold. (At this time probably the majority of investors are just beginning to purchase.) When the stocks have been sold the money should be deposited in some safe bank or invested on high grade bonds, or until the price of the metal falls and the country experiences another period of depression. These same or other standard stocks are then again purchased, and in a few years later the investor again sells at a huge profit. There is little risk in such a method, if only the most conservative stocks are bought, and there is no reason why any man cannot turn an original investment of from about $5,000 into $200,000 within about twenty

years, provided he is willing to spend $100.00 a year on collecting and tabulating fundamental statistics.

The theory advanced in this chapter is based on the assumption that the mines will not become exhausted and that no unforeseen event will make the working of these mines unprofitable. We refer to the physical arrangement of the mines, to the discovery of much richer and greater mines in other countries and to the development of some other substance which will supersede copper in the industrial world.

Neither of these assumptions need be considered when investing in conservative railroad stocks, as railroads will always be of value both for their tangible assets and for their earning capacity. Therefore, for an investment, we believe that "railroads" are much preferable to "coppers," although the latter are often profitable for speculative purposes.

TABLES

Average Pounds of Copper per Ton

	Tons rock stpd. daily	Lbs. copper in rock	% copper in rock
Calumet & Hecla	7,300	44.8	2.24
Wolverine	1,200	30.	1.5
Champion	2,400	26.	1.3
Tamarack	1,560	25.	1.25
Baltic	2,300	22.4	1.12
Osceola	2,700	18.	.9
Michigan	540	18.	.9
Trimountain	1,800	17.6	.88
Ahmeek	1,400	17.14	.857
Winona	320	17.	.85
Quincy	4,100	16.	.8
Isle Royale	500	16.	.8
Mohawk	1,800	16.	.8
Mass.	560	14.8	.74
Centennial	700	13.4	.667
Allouez	750	13.3	.665
Victoria	300	13.2	.66
Franklin	1,450	12.4	.62
Adventure	340	12.	.6

Table of Profits for Ten Leading Copper Stocks

This table shows how the profits are figured when copper is 13 cents per pound. The same method may be used when it is selling at any other price.

	Shares outstanding	Walker's estimate of 1907 output in lbs.	Lbs per share	Cost of production per lb	Profit per lb. copper	Profit per share on 13c copper
Calumet & Hecla ...	100,000	90,000,000	900	9	4	36.00
Calumet & Arizona...	200,000	37,000,000	185	7	6	11.10
Wolverine	60,000	9,500,000	158	6	7	11.08
Granby ..	135,000	30,000,000	222	8.5	4.5	10.00
Osceola ..	96,150	20,000,000	208	11	2	4.15
Amalgamated....	1,550,000	230,000,000	148	10	3	4.45
Utah Consolidated	300,000	18,000,000	60	7	6	3.60
North Butte	400,000	36,000,000	90	9	4	3.60
Quincy ...	110,000	20,000,000	182	11	2	3.64
Copper Range .	385,000	40,000,000	104	9	4	4.15
Mohawk .	100,000	12,500,000	125	9.5	3.5	4.37

NOTE:—The above table may be carried further by dividing the " profits per share " by the " market price per share."

Table Showing Range in Price of Lake Copper Since 1860

Year	Highest Av Price	Month		Lowest Price	Month
1860	22 24.0	(Jan)	to	19.7	(Dec)
1861	22 27.0	(Dec)	to	17.5	(July)
1862	21 32.8	(Nov)	to	20.7	(May)
1863	33 38.7	(Dec)	to	29.0	(July)
1864	47 55.0	(July)	to	39.0	(Jan)
1865	39 50.5	(Jan)	to	28.0	(July)
1866	34 42.0	(Jan)	to	26.5	(Nov)
1867	25 29.2	(Jan)	to	21.5	(Dec)
1868	23 24.5	(Dec)	to	21.5	(Jan)
1869	24 27.0	(Feb)	to	21.5	(Dec)
1870	21 23.3	(Nov)	to	19.0	(March)
1871	24 27.0	(Dec)	to	21.2	(April)
1872	35 44.0	(Apr)	to	27.1	(Jan)
1873	28 35.0	(Jan)	to	21.0	(Nov)
1874	22 25.0	(Jan)	to	19.0	(Aug)
1875	22 23.8	(Sept)	to	21.5	(Jan)
1876	21 23.2	(Jan)	to	18.7	(Aug)
1877	19 20.5	(Feb)	to	17.5	(Dec)
1878	16 17.6	(Jan)	to	15.5	(Oct)
1879	18 21.7	(Nov)	to	15.5	(Jan)
1880	21 25.0	(Jan)	to	17.8	(June)
1881	18 20.3	(Dec)	to	16.0	(July)
1882	19 20.3	(Jan)	to	17.8	(Apr)
1883	16 18.1	(Jan)	to	14.8	(Nov)
1884	13 15.0	(Dec)	to	11.0	(Dec)
1885	10 11.8	(Feb)	to	9.8	(May)
1886	11 12.1	(Dec)	to	10.0	(May)

Year	Highest Av. Price		Month		Lowest Price		Month
1887	13	17.7	(Dec)	to	9.9		(May)
1888	16	17.6	(Nov)	to	15.8		(Jan)
1889	13	17.5	(Jan)	to	11.0		(Sept)
1890	15	17.2	(July)	to	14.0		(March)
1891	12	15.0	(Jan)	to	10.2		(Dec)
1892	11	12.3	(Dec)	to	10.5		(Feb)
1893	10	12.5	(Jan)	to	9.6		(Aug)
1894	9	10.2	(Jan)	to	9.0		(June)
1895	10	12.2	(Aug)	to	9.3		(April)
1896	10	12.0	(June)	to	9.7		(Jan)
1897	11	12.0	(Jan)	to	10.7		(Nov)
1898	12	13.2	(Dec)	to	11.0		(Jan)
1899	17	19.3	(Apr)	to	13.2		(Jan)
1900	16	17.2	(Apr)	to	16.0		(Feb)
1901	16	17.0	(Jan)	to	13.0		(Dec)
1902	12	13.5	(Feb)	to	11.0		(Jan)
1903	13	15.3	(Mch)	to	12.0		(Dec)
1904	13	15.3	(Nov)	to	12.2		(Feb)
1905	15	18.8	(Dec)	to	15.0		(May)
1906	22	25.0	(Dec)	to	17.8		(Sept)
1907	20	26.2	(Mch)	to	12.5		(Oct)
1908	13	14.4	(Dec)	to	12.7		(May)

Table Showing Range in Prices of Leading Copper Stocks Since 1889

The prices of the leading copper stocks since 1889 have ranged as follows:

1890 AVERAGE 56-87

Osceola ranged from 45 (Sept.) to 32 (Dec.) Quincy 130 (Sept.) to 80 (Nov.).

1891 AVERAGE 55-76

Osceola ranged from 40 (June) to 26 (Nov.); Quincy 85 (Feb.) to 112 (Aug.).

1892 AVERAGE 82-91

Osceola ranged from 24 (Jan.) to 38 (Nov.); Quincy 140 (Dec.) to 145 (Dec.).

1893 AVERAGE 65-89

Osceola ranged from 36 (Jan.) to 25 (Aug.); Quincy 143 (Jan.) to 105 (Aug.).

1894 AVERAGE 50-76

Osceola ranged from 28 (Apr.) to 19 (July); Quincy 125 (Jan.) to 81 (July).

1895 AVERAGE 41-74

Osceola ranged from 42 (July) to 20 (Dec.); Quincy 102 (Mch.) to 170 (July); Wolverine 10 (July) to 3 (Dec.).

1896 AVERAGE 43-58

Osceola ranged from 21 (July) to 32 (Nov.); Quincy 134 (Feb.) to 104 (Aug.); Wolverine 6 (Jan.) to 10 (Nov.).

1897 AVERAGE 47-63

Osceola ranged from 28 (Apr.) to 42 (Sept.); Quincy 129 (Jan.) to 104 (Mch.); Wolverine 9 (Apr.) to 19 (Sept.).

1898 AVERAGE 53-91

Osceola ranged from 38 (Mch.) to 87 (Dec.); Quincy 105 (Mch.) to 150 (Dec.); Wolverine 18 (Mch.) to 38 (Dec.).

1899 AVERAGE 51-87

Mohawk ranged from 38 (Apr.) to 14 (Dec.); Osceola 105 (Feb.) to 61 (Dec.); Quincy 190 (Jan.) to 125 (Dec.); Utah Cons. 53 (Apr.) to 21 (Dec.); Wolverine 50 (Jan.) to 35 (Dec.).

1900 AVERAGE 57-78

Amalgamated ranged from 83 (Jan.) to 100 (Nov.); Mohawk 12 (June) to 28 (Dec.); Osceola 58 (June) to 80 (Nov.); Quincy 132 (July) to 178 (Sept.); Utah Cons. 38 (Apr.) to 22 (June); Wolverine 36 (June) to 49 (Dec.).

1901 AVERAGE 57-99

Amalgamated ranged from 130 (June) to 61 (Dec.); Mohawk 22 (Jan.) to 56 (Sept.); Osceola 120 (Sept.) to 72 (Dec.); Quincy 180 (Apr.) to 125 (Dec.); Utah Cons. 38 (Nov.) to 19 (Dec.); Wolverine 74 (Sept.) to 44 (Dec)

1902 AVERAGE 47-74

Amalgamated ranged from 79 (Feb.) to 53 (Nov.); Copper Range 44 (Mch.) to 65 (Oct.);

Mohawk 27 (Jan.) to 49 (Sept.); Osceola 90 (Feb.) to 48 (Nov.); Quincy 147 (Feb.) to 100 (Nov.); Utah Cons. 27 (Feb.) to 19 (July); Wolverine 42 (Jan.) to 65 (Dec.).

1903 AVERAGE 42-71

Amalgamated ranged from 76 (Mch.) to 34 (Oct.); Copper Range 75 (Feb.) to 37 (July); Granby 53 (Apr.) to 36 (July); Mohawk 58 (Feb.) to 31 (July); Osceola 79 (Feb.) to 44 (July); Quincy 127 (Feb.) to 80 (Oct.); Utah Cons. 22 (Jan.) to 34 (May); Wolverine 75 (Mch.) to 54 (July).

1904 AVERAGE 46-81

Amalgamated ranged from 43 (Feb.) to 83 (Dec.); Copper Range 38 (Feb.) to 75 (Nov.); Granby 25 (Mch.) to 58 (Nov.); Mohawk 34 (Feb.) to 58 (Nov.); Osceola 53 (Feb.) to 98 (Nov.); Quincy 80 (Feb.) to 125 (Nov.); Utah Cons. 30 (Jan.) to 47 (Nov.); Wolverine 68 (Jan.) to 110 (Nov.).

1905 AVERAGE 64-98

Amalgamated ranged from 70 (Jan.) to 112 (Dec.); Copper Range 64 (Jan.) to 85 (Dec); Granby 50 (Jan.) to 105 (Dec.); North Butte 34 (Aug.) to 93 (Dec.); Mohawk 48 (May) to 65 (Dec.); Osceola 88 (Feb.) to 115 (Oct.); Quincy 118 (Jan.) to 95 (May); Utah Cons. 39 (Mch.) to 59 (Nov.); Wolverine 105 (Jan.) to 135 (Dec.).

1906 AVERAGE 73-127

Amalgamated ranged from 118 (Feb.) to 92 (July); Copper Range 87 (Jan.) to 67 (July); Granby 80 (July) to 152 (Oct.); North Butte 75 (Mch.) to 118 (Oct.); Calumet & Arizona 107 to 185; Mohawk 55 (Mch.) to 85 (Dec.); Osceola 93 (Mch.) to 151 (Dec.); Quincy 114 (Jan.) to 80 (July); Utah Cons. 70 (Jan.) to 52 (June); Wolverine 131 (Jan.) to 190 (Dec.).

1907 AVERAGE 56-140

Amalgamated ranged from 122 (Jan.) to 42 (Oct.); Copper Range 105 (Jan.) to 44 (Oct.); Granby 152 (Feb.) to 60 (Oct.); North Butte 120 (Jan.) to 30 (Oct.); Calumet & Arizona 198 (Feb.) to 89 (Oct.); Mohawk 96 (Jan.) to 37 (Oct.); Osceola 181 (Feb.) to 71 (Oct.); Quincy 148 (Feb.) to 70 (Oct.); Utah Cons. 79 (Jan.) to 25 (Oct.); Wolverine 198 (Jan.) to 93 (Oct.).

1908 AVERAGE 66-101

Amalgamated ranged from 88 (Nov.) to 45 (Feb.); Copper Range 84 (Nov.) to 55 (Feb.); Granby 110 (July) to 80 (Jan.); North Butte 90 (Nov.) to 41 (Feb.); Calumet & Arizona 130 (Aug.) to 93 (Feb.); Mohawk 73 (Nov.) to 45 (Feb.); Osceola 135 (Dec.) to 77 (Feb.); Quincy 100 (Aug.) to 77 (Feb.); Utah Cons. 50 (Aug.) to 29 (Jan.); Wolverine 155 (Nov.) to 115 (Jan.).

Babson's Standard Barometers

Special Service for Merchants and Investors relative to Underlying Financial Conditions

(To avoid any misunderstanding we must first state that this work did not orignate with us; but was inaugurated some years ago by some of the most prosperous banking and mercantile firms of America The expense incurred by each firm, when performing the work independently, was so great, however, that the smaller banks, investors, and merchants hesitated to independently assume the responsibility. Therefore we were asked to have our central office do the work, dividing the expense among the different individuals who became our subscribers and shared the resulting benefits. As for many years we have been doing other work in the same way, we were willing to assume the responsibility.)

General Tables and Charts.

Our work consists in collecting with great care, system and impartiality all facts and figures which can in any way aid in forecasting future business conditions. All figures are arranged, analyzed and tabulated, the more important figures relative to each subject being selected and forwarded to the subscribers. In addition to the Tables, the more important subjects are graphically shown in chart form. In all there are about twenty-five of these subjects or "Tables" such as Failures, Railroad Earnings, Crops, Bank Clearings, Gold Movements, Balance of Trade, etc., In short our work is the same as that of the regular clerks who might be in the employ of our subscribers and whose duty it might be to gather these statistics. Merchants who have these Tables at their offices

can at any time refer thereto, and note whether or not the figures indicate a change in business conditions; and if so, to what extent.

Weekly Barometer Letters

For the special benefit of Merchants and Investors who have not the time to personally study our tables, we supplement these figures by Weekly Letters which contain the results of our own studies *reduced to barometer figures*. By comparing the barometer figures for Present Conditions with the barometer figures for Normal Conditions, one may readily forecast the nature of the next change in the mercantile, monetary and investment markets.

Our conclusions regarding Present Conditions should be absolutely complete and correct, as this work requires only honesty and mathematical correctness, and in fact may be verified by any honest, intelligent and careful bookkeeper. As to our figures on the Normal Conditions, we simply guarantee them to be impartial and in accordance with our best judgment; knowing that many experienced bankers and merchants have acquired, through many years of similar work, a judgment which may be far superior to ours. As, however, we supply all figures from which we deduct our conclusions on even Normal Conditions, our

subscribers take no risks and can at any time verify said conclusions.

The figure for Present Conditions is determined by studying the very latest bank clearings, railroad earnings, foreign trade, labor conditions, etc., and always shows the exact present conditions of the entire business world. By comparing the figures for a series of weeks, subscribers immediately notice the tendency of mercantile, monetary and stock market conditions.

The figure for Normal Conditions is determined by studying the change and trend in conditions during the past, and what may be expected with the present wealth and population of the country. If the figure for Present Conditions is considerably greater than that for Normal Conditions, this signifies that there may be a change for the worse, and the difference in the figures gives a suggestion when this change for the worse may be expected. If the figure for the Present Conditions is less than that for the Normal Conditions, this indicates that a change for the better may be expected at any time, and the amount of difference shows about how soon the change may be expected.

Investors and merchants receiving these Weekly Letters are therefore kept in close touch

with the actual conditions in the United States and are able at any time to forecast:

1. Mercantile Conditions of the United States as relating to manufacturing and commerce, enabling manufacturers and merchants to use the *flexible* credit system.

2. Monetary Conditions of the United States as relating to the conditions of the money market, rates of interest and the supply of funds.

3. Investment Conditions of the United States; that is, the general course of the stock and bond markets, disregarding minor movements and manipulative influence.

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In addition to the Tables and Chart mentioned above, subscribers are forwarded each month a complete Monthly Report giving the new figures for the month on each subject and comparing them with figures for the preceding month and figures for the same month the preceding year. Moreover, with this report we send each month a complete set of new Tables, *revised up-to-date*, giving the figures on each subject by months for several years back, *including the latest month.* This avoids the necessity of posting the monthly figures in a loose-leaf ledger—*although we are prepared to supply*

such a book to any subscriber desiring to keep more detailed figures than we give in these printed tables.

Our Tables give the monthly figures for the past months of the current year and in many cases corresponding figures for a few years back. These monthly figures not only show subscribers whether the figures on a given subject are increasing or decreasing, but also enables them to make an estimate for the complete current year. This estimate may then be compared with complete annual figures for preceding years, which are also furnished by us. In many cases these annual figures are given for thirty or forty years, so that by intelligently comparing this estimate for the current year, with the figures for preceding years, one may readily discover what the figures on any one subject indicate.

If a banker or merchant at any time needs figures on any one of these subjects, such as for instance "Bank Clearings," he has only to turn to his tables, and note the table marked "Bank Clearings." There he will find the latest figures procurable for this year, monthly figures for the past few years and also the annual figures for thirty or more previous years.

Although the figures on any one of the twenty-five subjects may clearly indicate a change for the better or the worse, yet a subscriber does not wholly rely on one subject. He studies the figures on all of the subjects, and compares the results in order to obtain a complete diagnosis of present conditions and make an intelligent forecast of future conditions.

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The cost of this entire service is from $7.50 to $15.00 per month, with the first year payable in advance. This price entitles the subscriber to the following:—

1. The *General Tables* containing original figures on each of the twenty-five subjects; both by years and months and which tables are always up-to-date.

2. The *Weekly Letters* containing the two Summary Barometer Figures on the Surface Conditions and Normal Conditions respectively.

3. *Monthly Reports* giving the new figures each month on the twenty-five subjects together with figures for the previous month and the corresponding month of the previous year together with a revision of the General Tables above mentioned.

4. Special plate glass desk cover for Tables and board clip for Weekly Letters.

5. In addition to the above, we send from time to time special Charts, Letters and Reports as occasions demand.

Subscribers are given a choice of the following two options at an additional cost of $10.00.

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(b) Special Outlined Forms for recording complete descriptions of all bonds and stocks purchased and Ruled Pages for keeping the cost prices of said securities and a record of all interest and dividends received therefrom.

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8. Total Bank Clearings of the United States.

9. Bank Clearings of the United States excepting New York City.

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Final Word to Readers

Upon reading the final proofs of this book, it occurs to the author that the book may possibly be the means of causing some persons to invest in stocks who will not give the proper study to statistics and general conditions. We therefore advise all readers that, if unwilling to invest one hundred dollars a year in collecting and tabulating necessary statistical data, it is better to buy no stocks whatsoever, but confine all investments strictly to high grade bonds such as are recommended by conservative bond dealers.

One other thing,—whether he buys stocks or bonds, the investor should not be in a hurry to make money too fast. The principal invested should grow slowly and naturally. Be willing to creep before walking and be willing to walk before running. Remember that there are many years in which to accomplish the desired object and that success depends very largely upon progressing slowly and carefully, especially during the first few years.

"No, sir, ye can bet it ain't th' people that have no money that causes panics. Panics are th' result iv too manny people havin' money. Th' top iv good times is hard times an' th' bottom iv hard times is good times. Whin I see wan man with a shovel on his shouldher dodgin' eight thousand autymobills I begin to think 'tis time to put me money in me boot."

"Don't git excited about it, Hinnessy, me boy. Cher up. 'Twill be all right tomorrow, or th' next day, or sometime. 'Tis wan good thing about this here wurruld, that nawthan' lasts long enough to hurt. I have been through manny a panic. I cud handle wan as well as Morgan. Panics cause thimsilves an' take care of thimsilves."

Dooley.

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